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# Examining Binge Eating Rates Between Caucasian-American and African-American Men

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# Walden University

College of Social and Behavioral Sciences

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Elizabeth Raky

has been found to be complete and satisfactory in all respects,  
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Walden University  
2017

Abstract

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Men

by

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Ph.D., Walden University, 1986

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BS, Rhode Island College, 1975

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

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2017

## Abstract

Eating disorders (ED) are maladaptive eating patterns that can have social, biological, health, and occupational consequences. The purpose of this study was to explore and compare binge eating episodes, locus of control, and body dissatisfaction between African-American men ( $n = 66$ ; 53.70%) and Caucasian-American men ( $n = 57$ ; 46.30%). There is a current gap in the existing literature regarding the study of men who BE and a sampling bias with regard to ethnic minorities. Based on Bandura's social learning theory model and Rotter's locus of control, the purpose of this research was to determine and compare the relationship between BE, locus of control, and body dissatisfaction among African-American and Caucasian-American men. The participants answered a demographic questionnaire, Eating Attitudes Test (EAT-26), Internality, Powerful Others and Chance Scale (IPC), and Body Satisfaction Questionnaire (BSQ). A quantitative research design was used and the chi-square was performed to evaluate the variables of the research questions. The sample population came from the Walden University participants pool and men who are self-described binge eaters from the African-American and Caucasian-American ethnicity in the community. Key results showed that African- American men believed they had less power in their lives, lower levels of body dissatisfaction, and increased feelings of chance in their lives. Recommendations for further research can be to replicate this study using other ethnicities. Implications for social change can include increased knowledge of men that BE which can improve their overall health and quality of life while reducing medical costs.

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## Dedication

This dissertation is lovingly dedicated to my parents, Willie and Mary, for teaching me the value of an education and strong work ethic; my brother, James Robert, for standing by me when the process seemed to never end. And, last but by no means least, my loving, devoted husband, Aram, for his unfailing love, support, and encouragement from the start of this process to its completion.

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## Chapter 1: Introduction to the Study

### Overview

Eating disorders (ED) are maladaptive eating patterns that include but are not limited to, the use of diuretics and laxatives to control weight, binge eating, and purging, also, control weight (Hilbert, deZwan, & Brachler, 2012; American Psychiatric Association, 2000; 2013). ED can have genetic, biological, behavioral, psychological, and social components (National Institute of Mental Health, 2012) and can adversely impact an individual's health, social, and industrial productivity (American Psychiatric Association, 2000; 2013). These disorders affect 0.5% to 3.0% of adolescents and young women over the course of a lifetime (American Psychiatric Association, 2000; 2013; Slane, Burt, & Klump, 2010, p. 111). When individuals resort to binge eating behavior, there are often negative personal and social consequences for these people.

The term binge eating refers to an episode where a person consumes too much food within a brief amount of time, usually within a two hour period (American Psychiatric Association, 2000; 2013). The individual will consume more food than normal, and the episodes occur at least twice a week for six months or more (American Psychiatric Association, 2000; 2013; Flaskerud, 2010; Wolfe, Baker, Kelly- Weeder, 2009). The food is usually consumed discretely with the individual not choosing to engage in other weight-reducing activities (American Psychiatric Association, 2000; 2013; Bennett & Dodge, 2007; Ciaran, 2010; Flaskerud, 2010; Grilo, White, & Masheb, 2009; Manwarring, Green, Myerson, Strube, & Wilfley, 2011; Reagan & Hersch, 2004; Wolfe et al., 2009). Furthermore, an individual who continues to BE can develop BED as

the frequency of BE increases. Symptoms of BE such as eating in a discrete fashion, eating more rapidly than normal, a lack of control over eating, eating alone, or eating large amounts of food when not feeling hungry also contribute to BED (American Psychiatric Association, 2000, 2013).

Binge eating disorder (BED) is an eating disorder that occurs more frequently than anorexia nervosa (AN) or bulimia nervosa (BN) (Grilo et al., 2009; Streigel-Moore, 2010). BED affects 2.8% of the population diagnosed with an ED (Hudson, Hiripi, Pope, & Kessler, 2007, p.349). Reagan and Hersch (2005) reported that with individuals under the age of 60 more women than men suffer from BED. This eating pattern could be because men are reluctant to say dysfunctional eating for an ED is typically considered a female disease. As people age, the symptoms of BED diminish. According to research, the frequency of BE is highest among adults younger than 40 (Reagan & Hersch, 2005). However, the Reagan and Hersch study did not reveal gender or ethnic differences of their participants.

Findings did indicate that lower income levels for women revealed BE tendencies while income was not an issue for men. BED often goes undetected and untreated, however, there are effective treatments available (Grilo et al., 2009; Racine, Burt, Lacono, McGue, & Klump, 2011; Wolfe et al., 2009). Early screening would increase the number of individuals being adequately treated for BE (Grilo et al., 2009; Striegel-Moore et al., 2012).

A study by Grilo et al. (2009) noted that participants with additional current psychiatric disorders had increased levels of ED psychopathology, greater depression,

and low self-esteem. Grilo's study involved 310 women, and 94 men administered semi-structured diagnostic and clinical interviews. The most common comorbid psychiatric disorders were mood (54%), anxiety (37.1%), and substance use (24.8%) disorders. No gender differences were noted in this study (Grilo et al., 2009). A study by Linde et al. (2004) had 1632 participants of which 28.2% were men, and 71.8% were women. This study found that depression was a comorbid disorder that affected women more than men.

Linde et al. reported that participants receiving medication for depression were less likely to lose the desired weight than participants not on drugs. Relationships between BE and depression were not found to be significant in men (Linde et al., 2004). The Grillo et al. (2009) and Linde et al., (2004) reports revealing differences attributed to the fact that men engage in other activities, such as sports that have an impact on their emotional state.

### **Background of the Problem**

An increase in obesity correlates with an increase in BED (Desai, Miller, Staples, Bravender, 2008). Desai et al. (2008) reported that obesity levels have continued to grow since 1976. Since 1976, the rates of being overweight among children increased from 6% to 18%, and obesity among adults, aged 20 to 74, rose from 47% to 66% (p.109). Desai et al. reported that overweight individuals have greater levels of inactivity, more major preoccupation with food, a greater desire to be thinner, and an increased fear of BE compared to normal weight individuals (Desai et al., 2008). Furthermore, as an increase

in obesity correlates with BED, there has also been an increase in body image disturbance, since the mid-1970s.

Individuals experiencing BE episodes frequently have a distorted perception of body image and are dissatisfied with their appearance. Reas, White, and Grilo (2005) conducted a study using the body check questionnaire to determine psychometric properties and clinical correlates in obese men and women with BED. There were 73 participants of whom 22 (30.1%) were men, and 51 (69.9%) were female. Reas et al. reported that men seldom checked their body shape. Women, on the other hand, were much more likely to check their body shape, over evaluate their body shape, and report body dissatisfaction. Grilo and Masheb (2004) also conducted a study that supports the findings of the Reas et al. (2004) study in that women reported a higher level of body dissatisfaction than men. Men said a greater concern with body mass index (BMI) than women and women had elevated levels of depression and lower self-esteem compared to men (Reas et al., 2004).

There have been studies that have reported a greater frequency of BE among African-American women than Caucasian-American women (Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000; Striegel-Moore, et al., 2003; Taylor et al., 2007).

Moreover, an individual's behavior may be appropriate within a culture, about a person's lifestyle can have an impact on feelings of shame and guilt regarding inappropriate eating behaviors (Striegel-Moore et al., 2003). The prevalence rates of BE among African- American men remain underreported. Typically, research studies have insufficient racial/ethnic minority representation to have sufficient statistical comparisons



(Franko et al., 2012; Taylor et al., 2012). There also appears to be a sampling bias with regards to ethnic minorities when comparing African-American participants with Caucasian-American participants (Taylor et al., 2012).

### **Purpose of the Study**

The goal of this study was to explore and compare BE episodes, LOC, and body dissatisfaction between African-American men and Caucasian-American men. I hypothesized that any differences between the two sample groups to be determined by the influence of the results of the dependent variables: binge eating, body dissatisfaction, and locus of control. This research addressed a research gap between dysfunctional eating patterns among African-American men and Caucasian-American men.

### **Statement of the Problem**

There has been lots of research on Caucasian-American women, the middle-class, and highly educated individuals regarding their respective relationship with BE. A gap still exists for examining the relationship between being male or being of a different ethnicity than Caucasian-American and BE (Racine, Burt, Lacono, McCue, & Klump, 2011; White, Masheb, & Grilo, 2009). Racine et al. (2011) conducted a study using dietary restraint as a variable in developing an ED. Several studies have purported that dietary restriction predicts risks for BE and also predicts the onset of BE (Jacobi, Hayward, deZwan, Kraemer, & Argas, 2004; Stice & Agras, 1998; Stice, Killen, Hayward, & Taylor, 1998). In the Racine et al. study (2011), there were 1262 participants divided into 798 monozygotic and 464 dizygotic samples. The sample population was female twins between the ages of 13-23. The findings supported the hypothesis that

genetic influences on BE increase with higher levels of dietary restraint (Racine et al., 2011). White et al. (2009) conducted a study that compared regimented control theory and lifestyle moderation theory. The study consisted of 512 research participants of which 75% were female and 25% male. The participants had a BMI  $\geq 25$  and met the full criteria of BED as defined by the DSM-IV. The ethnicities were reported as 83.1% Caucasian, 10.7% African-American, 5.5% Hispanic, 0.8% Asian, and 1.7% "other" (White et al., 2009). The research participants were asked to fill out The Eating Disorder Examination Questionnaire (EDE-Q), The Body Shape Questionnaire (BSQ), The Emotional Overeating Questionnaire (EOQ), and The Beck Depression Inventory (BDI) (p. 327). The results stated that individuals who participated in regimented restraint as a means to control or lose unwanted pounds had short term success and were more likely to regain the weight over time. Participants using lifestyle control were more likely to have success in the long haul and were more successful in not only losing the weight but keeping it off. The regimented theory is a rigid, rule-directed behavior that attempts to eliminate certain foods from an individual's dietary needs. White et al. (2009) also reported that people using dietary restraint were at high risk for developing BE. Regimented restraint theory says that the individual is helped to suppress the weight; however, White et al., (2009) purported that this disciplined lifestyle is an unhealthy way of maintaining weight, leads to weight cycling, and is a short term solution (White et al. 2009). Because the research concerning men remains underreported, there is a need for further study of how male gender and BE have an impact on overall eating behavior. In the lifestyle restraint theory, the individual learns how to eat, what choices to make,

portion control, and is more likely to engage in this behavior with continued success. An individual using lifestyle restraint is less likely to engage in BE episodes and has long term success (White et al. 2009).

There have been recent studies that purported BED as prevalent among African-Americans and Caucasian-Americans (Franko et al., 2012). A survey carried out by Franko et al. (2012) used several ethnic groups and compared differences about BE episodes. Franko et al. used 1388 research participants divided by ethnicity. The study was composed of 1204 (86.7%) Caucasian-Americans, 120 (8.6%) African-Americans, and 64 (4.6%) Hispanic-Americans. African-Americans reported greater body satisfaction and were more tolerant of weight fluctuations than either Caucasian-Americans or Hispanic participants (Franko et al. 2012). African-Americans also reported higher BMI scores than Caucasian-Americans; however, African-Americans were not concerned about their weight unless they were diagnosed with an eating disorder (Grilo et al., 2005). Franko et al., (2012) African-Americans diagnosed with an eating disorder also tended to be more concerned about weight gain than Hispanics. African-Americans seeking treatment for BED showed less tolerance with weight issues than some studies reveal (Franko et al., 2012). Furthermore, there are ethnic attitudes that differ between African- Americans, Caucasian-Americans, and Hispanic-Americans.

The ethnicities represented in the Franko et al. (2012) study was Caucasian-Americans, African-Americans, and Hispanic-Americans. As stated earlier, of the 1388 participants in this study, less than 10% were African-American. The Franko et al., study illustrates the point that there is a need for a further study comparing Caucasian-

Americans to African-Americans to determine the impact BE has on these populations. Franko et al. (2012) reported no age differences; however, there were ethnic differences in demographic variables, mean BMI, and features of ED psychopathology among African-American, Caucasian-American, and Hispanic-American participants. African-Americans showed greater restraint in controlling food intake than did their Caucasian-American counterparts. This study also showed greater restraint among men than women. The dietary restraint scores were higher in the African-American population indicating that this ethnic group appears to have lower levels of concern over weight issues. The educational levels were comparable between Caucasian-American and African-American participants. Franko et al. (2012) also determined that socioeconomic status is a greater predictor for BE episodes than educational levels.

Eating attitudes differ among various ethnicities. Sherry et al. (2004) conducted a study about the eating attitudes of different ethnic groups. There were three ethnic groups (Caucasian-American, African-American, and Hispanic-American) composed of low-income participants compared to the same ethnicities of middle-income. The results showed that African-American and the Hispanic-American groups did not allow too many sweets or processed foods while the Caucasian-American group used bribes to get their children to eat. The Caucasian-American group also prepared food the children preferred or requested to accommodate their interests. A weakness of this study is that the researchers do not identify how income levels impact eating attitudes.

Moreover, as the socioeconomic levels increase, the individual may choose to use additional funds to purchase more food which may help fund BE episodes.

### **Research Questions**

The research questions addressed in this study were:

RQ1—What is the relationship between binge eating, a locus of control, and ethnicity in men?

RQ2—Do African-American men have feelings of greater body dissatisfaction; compared to Caucasian-American men?

### **Hypotheses**

Experimental hypothesis: African-American males will experience a higher internal locus of control and have less BE episodes and body dissatisfaction than Caucasian-American men.

H1A: There will be differences between African-American and Caucasian-American males regarding African-American men having a higher locus of control and less tendency to binge eat as measured by the Eating Attitude Test-26 and the Internality, Powerful Others, and Chance Scales.

H1o: There will be no differences between African-American and Caucasian American males regarding African American men having a higher locus of control and less tendency to binge eat. As measured by the Eating Attitude Test-26 and the Internality, Powerful Others, and Chance Scales.

H2A: African American men will have greater feelings of body dissatisfaction than Caucasian American men as measured by the Body Satisfaction Scale.

H2o: African American men will not have greater feelings of body dissatisfaction than Caucasian American men as measured by the Body Satisfaction Scale.

### **Design of the Study**

I used a cross-sectional quantitative survey design for this study. Understanding how BE impacts Caucasian-American and African-American men was the primary focus of this study and was consistent with the model proposed. Research has shown that BE is more common among African-American and Caucasian-American women than Caucasian-American men (Reagan & Cachelin, 2006). Research further reports that BE decreases as men get older and the BMI is greater in African-American men than Caucasian-American men (Hudson et al., 2007; Reagan & Cachelin, 2006). However, there are no racial differences in the frequency of BE (Reagan & Hersch, 2004; Franko et al., 2012). BE has a shorter duration among African-American men than Caucasian-American men; although, African-American men have a greater tendency for embarrassment when experiencing BE (Bennett & Dodge, 2007; Franko et al., 2012; Taylor et al., 2007). Keeping the focus on how Caucasian-American and African-American men differ in their eating habits and self-efficacy will be understood using Bandura's theory of self-efficacy (Bandura, 1977).

Eating behavior was measured and analyzed according to the results of the EAT-26. A score  $\geq 20$  indicates the possibility of an ED such as AN or BN (Garner et al., 1982; Reagan & Hersch, 2005). A score  $\geq 11$  indicates the possibility of an eating disorder (O'Hea et al., 2009). A self-developed questionnaire was used to address demographic issues such as height, weight, the marital status level of education, income level, ethnicity, and gender. The Interpersonal Powerful Others and Chance (IPC) was used to determine the different levels of locus of control (internal and external) and the

Body Dissatisfaction Questionnaire (BDQ) was used to assist in determining the level of body dissatisfaction of the participants. The participants were self-identified, over the age of 18, never having been diagnosed with an ED, not currently in therapy for an ED, must be able to read, write and understand English, and must be of African-American or Caucasian-American ethnicity. The sample participants self-identified their ethnicity.

### **Theoretical Foundations**

O’Hea et al. (2009) suggested that Bandura's social learning theory and Rotter's locus of control help better understand why certain people resort to BE and others do not. Thus, both methods provided the theoretical framework for this study. Bandura's theory was used for this study because it addressed how expectations determined coping behavior and the efforts used to sustain the action in the face of obstacles or adverse situations (Bandura, 1977). Rotter used locus of control in this study. Rotter purported that an individual's locus of control help determine how a person thinks about a particular event and the outcome of health behavior (O’Hea et al., 2009). Self-managed behavior also increases the ability to cope with stress (Job et al., 2010; Knoop, 1989; O’Hea et al., 2009; Rosenstock, Strecher, & Becker, 1988; Trento et al., 2007). The strength of Rotter's locus of control is a belief that an individual's locus of control will help determine how a person thinks about a particular event and understands how this process could influence the outcome of health behavior (O’Hea, Moon, Grothe, Boudreaus, Walleston, & Brantley, 2009). When an individual has a high internal locus of control, that person accepts responsibility for his or her behavior in managing a chronic disease. When a

people with eating issues can tap into the internal locus of control that inner strength helps the individual manage their food intake and overall behavior (Knoop, 1989; O’Hea et al., 2009). On the other hand, people with a low self-efficacy do not believe they have the ability to change their behavior and depend on the help of a professional or family member to monitor them so they can adhere to a healthy eating regime (Knoop 1989; Rosenstock, Strecher, & Becker, 1988).

The strength of Bandura’s social learning theory involves four basic concepts: behavior potential, expectancy, reinforcement, value, and the psychological situation (Rotter, Chance, & Phares, 1972). An action potential is when a particular behavior could occur in any given situation when calculated with reinforcement. The value of support is critical when determining the expectancy construct. Rotter, Chance, and Phares (1972) placed the support value on the importance of a particular reinforcement. Finally, the psychological situation involves the reaction of a person depending on the individual's internal or external locus of control, which developed through modeling behavior.

Role modeling is critical in the development of Bandura's social learning theory, and this behavior is learned through modeling the behavior of others (Ollendick & Grills, 2005). Learning occurs by observing behavior through a process known as vicarious learning that an individual develops self-efficacy and confidence to make decisions in life (Lang, 2005; Ollendick & Grills, 2005; Ragali-Oiler, 2009; Stone, 2005). Unfortunately, the modeling can influence an individual to make poor decisions depending on how his or her internal or external locus of control is controlled (O’Hea et al., 2009).



As applied to this study, I expected the independent variables and locus of control to predict the action of the dependent variables (Caucasian-American men and African-American men) that control eating behavior.

### **Definitions**

*Acculturation*: An individual whose primary cultural learning is from one culture and that person migrates to another culture and adopts the traits of the new culture (Lahey, 2003; Marden & Meyers, 1968).

*Anorexia nervosa*: A person is fearful of gaining weight and maintaining a healthy weight. The individual also exhibits a disturbance in perception of body shape and size. Amenorrhea is common among women suffering from anorexia nervosa, which is the absence of a menstrual period (American Psychiatric Association, 2000). According to the DSM-IV, an individual is considered diagnosed with AN when the person weighs less than 85% of the normal average weight for a particular age and body size.

*Authoritative parenting style*: A parenting style where the parent sets rules; however, there is flexibility, and the parent allow the child to have some input in challenging the rules and help make changes (Lareau, 2002; McKay, 2006).

*Binge eating*: Consuming large quantities of food in a discrete fashion without using compensatory behavior such as vomiting, use of laxatives, or excessively exercising to control weight. The binge may occur over a period such as two days per week for six months or more (APA, 2000, p.785, p.787).

*Binge eating disorder*: Extreme binge eating without behavior that would reduce the number of calories consumed such as laxative use, purging, vomiting, and excessively

exercising (Grilo et al., 2009). There is a lack of control such as eating rapidly, eating until feeling full, eating large amounts of food when not hungry, eating alone, feeling embarrassed about the amount of food consumed, guilt over eating episodes, or depression after binge eating episodes (APA, 2000, p.787).

*Bulimia nervosa:* Binge eating associated with behaviors that help prevent weight gain. These actions include purging, vomiting, or exercise to an extreme. The practice is usually discrete (APA, 2000). A binge usually includes high-calorie foods with little nutritional value. There is a sense of lack of control during a binge leaving the individual ashamed with feelings of guilt (APA, 2000). The DSM-IV further indicates an individual bingeing usually has triggers preceding the binge (APA, 2000).

*Eating disorder:* An eating disturbance, with may include bingeing, withholding nutrition, or improper eating behavior such as purging and the use of laxatives or diuretics that help control weight. Irregular eating that can lead to psychopathology, health difficulties, and impaired quality of life help define an eating disorder. Eating disorders involve non-verbal eating patterns that include weight-related symptoms (Hilbert, deZwan, & Brachler, 2012).

*External locus of control:* The consequences of an individual's action due to forces outside a person's behavior. Outside forces could be classified as fate, chance, or a higher power such as God (Harvey et al., 1974). An individual with a high external locus of control is not sensitive to decisions because the person does not feel a sense of responsibility for the decision is made by forces beyond the individual's control (Harvey et al., 1974).

*Internal locus of control:* Consequences viewed as the result of a person's action. The individual is more engaged in making decisions about activities. Individuals with an internal locus of control is said to be more sensitive regarding the freedom of choice surrounding their operations (Harvey et al., 1974).

*Locus of control:* The ability to influence the actions and outcomes in an individual's life such as adherence to a medical treatment regime. The locus of control could be classified external or internal locus of control (Knoop, 1989).

*Modeling:* Modeling is a tenant of Bandura's social learning theory where an individual observes the behavior and actions of another and learns to imitate that behavior (Rigli-Oiler, 2009; Stone, 2005).

*Reciprocal determinism:* Reciprocal determinism suggests that an individual's behavior may be the result of interaction between the environment and personal characteristics (Bandura, 1997; Lang, 2005).

*Restraint theory:* Restraint theory is a belief that dieting involves extreme limiting of Caloric intake (Polivy & Herman, 1985; White et al., 2009).

*Self-efficacy:* When an individual gains confidence in oneself by observing the behavior of another person. The ability to make wise decisions and complete tasks that are present add to a person's self-efficacy (Ollendick & Grills, 2009).

*Vicarious learning:* Learning through observation also known as reciprocal determination (Lang, 2005).

### **Implications for Social Change**

The positive social change implications for this study included increased knowledge as to why men resort to binge eating and what can be done to curtail this behavior. As men enhance their understanding about why they BE, there will be a reduction of binge eating episodes and a decrease in their obsession with food. The knowledge as to why men BE will also help improve their health and reduce the medical costs of health related illnesses that can surface as a result of binge eating.

### **Assumptions, Limitations, Scope**

#### **Assumptions**

Assumptions are limitations of a study that cannot be controlled. In this study, it was assumed that participants answered the questions on the EAT-26 (Orbitello et al., 2006) and the Interpersonal Powerful Others and Chance (IPC) honestly and recorded their behaviors on the EAT-26 accurately. The EAT-26 was a self-report instrument that identified participants at high risk of an ED (Orbitello et al., 2006). The EAT-26 is a 26 item test using 20 as a cutoff score and participants scoring  $\geq 20$  could be at risk for an ED (Orbitello et al., 2006). The IPC measured the internal and external control of reinforcements. I assumed that the participants answered the questions on the Body Dissatisfaction Questionnaire (BDQ) in an honest manner. Additional research may be needed to explore other ethnic cultures such as Hispanic-Americans, Arab-Americans, Native-Americans, etc.

**Limitations**

There were several limitations to this study. The sample consisted of students from the Walden University participant's pool and men who are self-described binge eaters from the African-American and Caucasian-American ethnicities in the community. Findings were limited to the chosen sample size of Caucasian-American and African-American males. To generalize the findings to other ethnic groups additional research may be necessary. This study used a random sample due to the time and cost restraints. BE was the only eating behavior to be addressed; therefore, additional research will be necessary to explore other eating behaviors and the impact on other ethnic groups. The only eating behavior reported in this study was BE; therefore, the information gathered from this study cannot be generalized to other populations without further research.

**Scope**

A framework of a research project involves set boundaries. The type of questions and the time limit laid down to collect data were two of the limitations of this study. This study was limited to BE, one gender, and two different ethnicities. Further research will be needed to extend this research to other ethnic cultures. This research further examined how internal and external locus of control affects BE with the participants of the two ethnic groups in this study.

**Significance of the Study**

In prior research, BE among men has been understudied (Gentile, Raghaven, Rahaf, & Gates, 2007; Grilo & Masheb, 2004; Job, Oertig, Brandslatte, & Allemand,

2010; Linde et al., 2004; Regan & Hersch, 2004). Knowledge of men with BE episodes can help raise awareness of this unhealthy eating behavior among males. Comparing

Caucasian-Americans and African-Americans will also contribute to increasing understanding that BE is not only a disorder affecting Caucasian-Americans. This research can potentially help with the prevention of BE, improve treatment modalities, and identify at-risk individuals. Additionally, this information will help people alter their unhealthy eating behaviors which will reduce the cost of therapy, have fewer absences from work or school, aid individuals in adopting a healthier lifestyle, and help people have a more positive influence in society.

### **Conclusion**

This chapter provided background information and identified a gap in the literature for BE. This section also gave an overview of BE, statement of the problem, nature of the study, research questions, and research hypotheses, including both null and alternative hypotheses. Chapter one also included the purpose of this study, theoretical foundations, definitions, assumptions, limitations, scope, summaries, and transition into the rest of the dissertation.

Chapter 2 consisted of an extensive review of the literature on BE as it affects Caucasian-American and African-American men. I presented research inconsistencies. I, also, offered Underlying theories such as the locus of control and Bandura's social learning theory. In Chapter 3 I introduced the methodology and rationale for using the quantitative, cross-sectional research design. I included an overview of the EAT-26, the Interpersonal Powerful Others and Chance (IPC), and the Body Shape Questionnaire

(BSQ). I addressed the rationale for the sample size, data collection, and analysis in chapter 4 as well as the demographic information, such as age, height, weight, BMI, the level of education, income level, and parent's level of education. Chapter 4 included the results of the research analysis. Chapter 5 included the findings and results of the data collected. Lastly, Chapter 5 concluded with a discussion of the results, the relevance to social change, limitations, and suggestions for further research.

## Chapter 2: Literature Review

### **Introduction**

The literature review began with an overview and history of binge eating (BE), BE risk factors, at-risk populations, and the necessity for research on BE. I presented research strategies, reviewed the related literature regarding BE symptoms, and theories, such as Bandura's social learning theory and theory of self-efficacy. I explored Rotter's locus of control theory. Other topics discussed in this chapter included BE behavior relating to adult males, particularly how locus of control, socioeconomic level, parenting style, ethnicity, gender, body shape, physical activity, eating behavior, and body image dissatisfaction, contributed to binge eating and purging in a multi-ethnic community sample. This chapter also provided information on how overweight patients, diagnosed with binge eating disorder, experienced avoidance and body checking. Also presented were research findings on the factors that influenced the development of BE, literature supporting the methodology used in this study, and I discussed the need for further research. This chapter ended with a conclusion section and provided a transition to chapter 3

### **Research Strategy**

I gathered information on prior BE research symptoms and data on risk factors for BE and related eating disorders (ED) from the search engine EBSCO. Databases included Academic Search Premier, Google Scholar, Medline, PsycARTICLES, PsycINFO, PubMed, SocINDEX, and Encyclopedias and Handbooks were used to search for the above words. Keywords used for this research were: acculturation,



*African-Americans, behavioral influences of BE, binge eating, binge eating disorder (BED), Caucasian-Americans, eating disorders, eating disorder symptoms, external locus of control, gender, male, modeling, parenting style, internal locus of control, locus of control, reciprocal determinism, self-efficacy, sociocultural influences, social learning theory, and vicarious learning.* I retrieved certain statistical information from sites such as the Department of Mental Health, the National Eating Disorder Association, the National Institute of Mental Health, the U.S. Census Bureau, as well as peer-reviewed journals that provided cross-referencing sources.

## **Literature Review**

### **Overview of Binge Eating**

The term binge eating (BE) refers to an episode where an individual consumes a large quantity of food within a short amount of time. The food consumed discreetly, and the person does not engage in other weight control activities such as using laxatives, purging, or excessive exercising (American Psychiatric Association, 2000,; Ciaran, 2010; Flaskerud, 2010; Manwarring, Green, Myerson, Strube, & Wilfley, 2011; Reagan & Hersch, 2004; Wolfe, Baker, Smith, & Kelly-Weeder, 2009). Families with a member suffering from BE usually have a unique set of circumstances when dealing with an individual who consumes a large quantity of food in a short amount of time. The person often feels out of control and is usually unable to manage their behavior. Out of control eating patterns can lead to physical ailments such as type 2 diabetes, hypertension, and elevated levels of cholesterol (O’Hea et al., 2009, Trento et al., 2007; Wing, Marcus, Epstein, Blair, & Burton, 1989). These chronic ailments put additional strains on the

health care system by increasing the cost of health care. This paper argued the effects of BE on men and compared Caucasian-American and African- American populations. Finally, the locus of control was examined using Bandura's social learning theory, compared the internal and external locus of control and argued that an internal locus of control had more of an impact on BE behavior.

Previous research explored BE focusing on female participants; however, there has been a gap regarding male participants with BE episodes (Gentile, Raghaven, Rahaf, & Gates, 2007; Grilo & Masheb, 2004; Oertig, Brandstatter, & Allemand, 2010; Linde et al., 2004; Reagan & Hersch, 2004). It was reported in the Wing et al. (1989) study that females had greater difficulty with BE than males. I said indicated that participants diagnosed with diabetes had higher incidence with BE when they followed a diet only regime as compared to the participants that took medication while following a proper diet. This study found that the correlation between depression and BE in females was significant. The correlation between BE and depression in males was found to be non-significant. The results of the BES were important in the self-reported dysphoria in females and males. There were fewer men participants in this study which could help account for these results. Furthermore, there have been studies that report BE and obesity as being more of a female problem than a male one.

The DSM-IV criteria for BE do not include an operational definition of body image dissatisfaction; however, there is research that predicts an individual with body image dissatisfaction would have a greater incidence of BE episodes (Cuzzolaro, Donini, & Santomassimo, 2008). In studying participants with BE, female participants showed a

greater uneasiness for body image than male participants; therefore, it is presumed that body image dissatisfaction should be included in the criteria for BE (Cuzzolaro et al.). While Cuzzolaro et al., (2008) determined that body dissatisfaction contributed to BE, there was an earlier study by Masheb and Grilo (2005) that purported BE caused by emotions and depression was not related to body mass index (BMI), body dissatisfaction, or gender. Tranofsky, Wilfley, Spurrell, Welch, and Brownell (1995) conducted a study that purported male participants reported they were less emotional than female participants. These inconsistencies in the research literature reinforce the need for ongoing research to evaluate prior findings.

### **Binge Eating and Obesity**

Previous research has mostly focused on BE among women (Gentile et al., 2007; Grilo & Masheb, 2004; Job, Oertig, Brandslatter, & Allemand, 2010; Linde et al., 2004; Reagan & Hersch, 2004); thus, there has been a gap in research regarding male participants with BE episodes (Womble et al., 2001). Reagan and Hersch (2004) conducted a study that found that nonobese men do not BE as much as obese men. There was no significant difference in the frequency of BE among obese and nonobese Caucasian-Americans women. Reagan and Hersch further reported that dieting was more frequent in women (51%) than men (33%). Obesity and race were not significant factors in BE episodes for men or women, and the BE events appeared to diminish with age (Reagan & Hersch, 2004, p. 254).

Zeeck, Stelzer, Linster, Joos, and Hartman (2011) reported in a study that participants reporting BE are more prone to greater feelings of dissatisfaction if they are

obese than nonobese. Negative moods often appeared in obese binge eaters; although, Hilbert and Tuschen-Caffier (2007) reported that BE did not reduce the levels of prejudicial attitudes (Hilbert & Tuschen-Caffier, 2007). Participants experienced negative moods before a binge and a deterioration of feelings following excessive eating. Furthermore, an individual in the binge eating disorder group or bulimia nervosa group reported negative emotions before a binge and following a binge but not when there was a regular meal offered. In a study of BE and obesity, it was reported that there was a significant difference regarding the negative interaction of emotions between obese participants and normal weight participants (Zeeck et al., 2011, p. 431). Zeeck et al. further reported no significant difference between groups for powerful or negative-depressive emotions.

However, I found an important difference between groups of negative- interactional emotions. Normal-weight participants appeared better able to tolerate negative emotions than obese participants. There were no differences reported in positive emotions among the three groups.

I found a gender gap in studying obese participants where obesity associated with a reduction in physical activity but not in the health-related quality of life (HQOL) (Wiczinski, Doring, John, & Lengerke, 2009). An active social support buffers obesity-related impairments and improve an individual's HQOL. An active social support is more significant for men than women (Wiczinski et al., 2009). The interaction of BMI and social support was significant only for men about their HQOL. This medium could be due to the social support men receive in obese-related issues. Men will meet at the gym

for a workout or participate in group sporting activities that help maintain their HQOL (Wiczinski et al., 2009).

There are differences between BE and certain ethnic groups such as Caucasian-American, and African-American. Body image disturbance among the obese was more prevalent among Caucasian-Americans men than African-American men (Franko et al., 2012; Sorbara & Geliebter, 2002). Binge eating occurred more frequently among women than men (Wilson, Nonas, & Rosenblum, 1993). This occurrence could be because men are more reluctant to report BE or enter treatment for an ED. Caucasian-Americans were also more likely to have higher disturbance scores, overestimate body size, and be dissatisfied with their appearance than African-Americans. Men had a higher interference score than women (Sorbara & Geliebter, 2002). Sorbara and Geilebter (2002) also stated that Caucasian-Americans were more likely than African-Americans to BE. Binge eaters were also more likely to judge themselves regarding body shape, weight, and body dissatisfaction than non-binge eaters (Desai et al., 2008; Sorbara & Geliebter; Wilson et al., 1993). These reports are dated, and there are more recent studies that refute these findings.

There has been recent research to document that African-American women experience obesity and that the highest rates of obesity in the United States are among African-American women (Fitzgibbon et al., 2012; James, 2013). Fitzgibbon et al. (2012) conducted a self-administered survey among African-American women. There were 413 participants in this study. The participants were over the age of 18, African-American women, and 178 (43%) were obese, 103 (25%) were overweight, 124 (30%) were of

normal weight, and 8 (2%) were underweight. The results purported that obese women reported a greater desire for weight loss information, the use of diet pills to control or lose weight, and more likely to fast than overweight, healthy weight, or underweight women ( $p < 0.001$ ). These studies focused on women and could be replicated considering men for there is a lack of much-documented research with men as participants.

### **Males**

Research conducted on BE has focused more on female members than male ones. Male members tend to be reluctant to come forward because BE has been considered a female disorder (Mannucci et al., 2010; Striegel-Moore, Bedrosian, Wang, & Schwartz, 2012). There is also the shame aspect of BE that men may be unwilling to acknowledge. Males are less likely to report BE, body dissatisfaction, purging for weight control, or excessive exercising (Grilo, Masheb, Brody, Burke-Martindale, & Rothschild, 2005; Sorbara & Geliebter, 2002; Striegel-Moore et al., 2009). Striegel-Moore et al. (2009) reported that only a minority of men revealed BE symptoms. Men were more likely to say overeating and losing control of their eating. For example, overeating might be in conjunction with men gathering at sporting events or other activities where a large quantity of food consumed as the events unfolded. Participating in sports is also a risk factor for men in developing an eating disorder (Riciardelli & McCabe, 2004; Striegel-Moore et al.). Striegel-Moore et al. (2012) reported that it is important to include men in the study of binge eating for the results help increase the awareness of why men BE and early screening and intervention can help develop appropriate treatment methods.

Males that presented for treatment of BED tend to have a higher Body Mass Index (BMI) (Barry, Grilo, & Masheb, 2001, 67). Regarding mental health issues, men and women did not report any difference in the levels of depression or self-esteem. Women reported a lower body dissatisfaction and drove for thinness. A recent study purported that men who BE are less stressed and anxious than women who BE (Streigel-Moore et al., 2012). However, men reported greater functional impairment than women. Men reported greater difficulty in functional impairment such as work productivity, higher absences from work, more difficulty in non-work activity such as studying, child care, shopping, yard work, and increased sleep habits (Streigel-Moore et al., 2012.). Finally, more men report overeating; however, more women report not being able to control their eating.

Men also say no particular pattern of body checking (Reas, White, & Grilo, 2006; Streigel-Moore et al., 2009). There are also several factors that need addressing when comparing Caucasian-Americans and African-Americans. Factors that need addressing in future research are acculturation, the length of time individual African- American families have been in this country, how smoothly the integration has gone, adopting the values of the American culture, and what values have the African- Americans kept from their culture.

### **Caucasian-American and African-American**

In comparing the BE eating habits between Caucasian-American and African-American males, several factors need addressing such as weight, shape, body dissatisfaction, and emotional eating. Caucasian-American men tend to be more

concerned with weight, shape, body dissatisfaction, and emotional eating than African-American men (Masheb & Grilo, 2005; Grilo et al., 2004; Reagan & Cachelin, 2006).

There is greater dissatisfaction with body image among Caucasian-Americans than African-Americans, which could be attributed to cultural differences (Bennett & Dodge, 2007; Gentile et al., 2007; Grilo et al., 2004). There are cultural beliefs among African-American males that can factor into these differences (Bennett & Dodge; Gentile et al.). Subsequently, it is these beliefs, such as a lack of concern over body shape and eating habits that give to succeeding generations of offspring. This lack of interest can allow the generational cycle of a dysfunctional relationship with food to continue.

BE was the most common eating disorder among African-American adults (Taylor, Caldwell, Baser, Faison, & Jackson, 2007). African American men experience loss and report more BE episodes than African-American women. While African Americans have been part of the American culture for decades, the acculturation process can still be stressful (Lakey, 2003). Failure to fit in often leads to feelings of inadequacy, poor self-image, and body dissatisfaction, which may increase BE behavior (Regan & Cachelin, 2006; Taylor et al., 2007). This finding warrants further investigation.

BE was highest among African-Americans and, the older the age of onset reflects a less concern for smaller body size and greater concern for environmental factors (Taylor et al., 2007). Regan and Cachelin (2006) and Taylor et al., (2007) stated once an individual's eating habits are established, they are difficult to alter should they develop a poor diet. Weight and appearance are important for men; however, environmental factors are of greater importance (Regan & Cachelin, 2006; Taylor et al.). Franko et al., (2007)



conducted a study and purported that BE was considered to be the most stressful of the eating disorders; although, there was a higher level of stress reported among Caucasian-Americans than African-Americans (Sorbara & Gelieber, 2002). There is inconsistent research presented by Franko et al. (2011) that purported African-Americans were more likely to show dietary restraint than Caucasian-Americans and were interested in reducing their weight. There is also evidence in the Franko et al. study that reveals economic hardship or stress may help explain the differences in eating disorders.

### **Locus of Control Theory**

The locus of control theory predicts how people will succeed by how they respond to the success or failure of a previous task (Triplet & Cohn, 1984). An individual's past success will encourage the person to continue working toward future success. Facts relating to a person's condition determine success in adhering to a regime set by healthcare professionals (Triplet & Cohn). In the case of binge eaters that have developed medical problems, the adherence might be medication regime, exercising, diet, or a combination. In the locus of control theory, people attribute events to being in their control, which can be either internal or external locus of control (Triplet & Cohn; Trento et al., 2007). The locus of control theory is not without detractors for Weiner, Nierenberg, and Goldstein (1974) purported the locus of control theory is second to the attribution theory. The Attribution theory stated that experiences influenced by the stability of casual factors of everyday life focusing on past events. If an individual has success in a particular activity, that person will be encouraged to continue and build on that success. It is believed in attribution theory that a person will continue having successes based on

previous successes (Weiner et al., 1974). If a teacher informs, a beginning music student he or she shows promise and plays very well there is a high chance the practicing will continue to improve the skill necessary to become great. However, if a person should see money on the street, the probability is small that individual will keep looking up and down the street for more money (Weiner et al., 1974). The Weiner et al., (1974) study is an older study, but one worth mentioning, for the results show how casual versus direct experiences can influence a person's behavior. The Weiner et al. (1974) study argued that attribution theory used circumstances from everyday life, and the researchers purported that success in past events led to future success.

Attribution theory processes information to ascertain how people explain behavior (Zuckerman & Feldman, 1984). Rotter (1966) reported that behavior and outcomes reside either within the individual or from external sources. Attribution Theory views, that control has an important part in explaining this method. Attribution theory has its influence that traces to Rotter's (1966) internal versus external locus of control.

Heider (1958) agreed and used the can-do spirit of ability as being within the individual and task difficulty as being a strength characteristic to the environment. Heider (1958) further purported that a person with control over the environment has reduced stress and better at adaptive functioning. Also, individuals with a stronger internal locus of control are better at monitoring health-related issues than those with an external locus of control (Weiner et al., 2008).

With an internal locus of control, the individual takes responsibility for his or her behavior and reactions to events and beliefs that success is on the amount of effort put

into the experience (Burkhart & Rayens, 2005; Weiner et al., 1974). With an internal locus of control, a person is more likely to adhere to a regime of treatment presented by the primary care physician or nutritionist (Burkhart & Rayens, 2005). A pianist practices for years to master the craft and successfully performs. The person who practices for so long believes that future successes will be determined by the amount of ability and effort the individual puts into practice. These skills come from an internal locus of control.

Younger people are more prone to an internal locus of control as they engage in sports, perfect musical skills, or earn badges in scouts (Knoop, 2001). As people age decisions are taken out of their control such as with health-related decisions. The Medicare Program is a federally funded program that dictates the coverage the elderly are entitled to and how long they can remain at a certain level of care. If the person is on Medicare and receives outpatient services, he or she is confined to the home and not allowed to travel. The two exceptions would be for health care treatment or religious services (CMS, 2013).

An external locus of control is more prevalent in older adults for, as the individual ages, there are many decisions removed from their control (Harvey, Barnes, Sperry, & Harris, 1973). Medicare sets the standards, makes decisions as to how the person is treated and what diagnostic tests performed. If the individual begins suffering from dementia, there will be other decisions and problem-solving issues removed from the individual's control (Harvey et al., 1973). Harvey et al., stated that in an external locus of control the individual would be successful in changing behavior patterns if there are positive results such as better glucose control in the case of diabetic patients or when

there are greater choices. It has been purported that there are more important decisions in internal than external locus of control (Harvey et al.; Lefcourt, 1973).

Individuals with a higher self-concept operate from an internal locus of control. Their expectancy is that they will succeed in maintaining adherence to a regime. Caucasian-American men tend to have a higher internal locus of control than African-American men (Weiner et al., 1974). Taylor et al. (2007) reported that women tend to have a higher number of BE episodes than men; however, African-American men said BE as the most prominent eating disorder they experienced. A fear of losing control or becoming embarrassed when eating is more common among Asian-American and Native-American women than men. Future studies would be needed to ascertain if this is true or can be generalized across gender and ethnic barriers (Bennett & Dodge, 2007). Furthermore, it is determined that individuals with a chronic disease have better treatment outcomes with an internal locus of control (O’Hea et al., 2009).

African-American patients were studied about their type 2 diabetes (O’Hea et al., 2009). I determined that patients with low self-efficacy, an economically disadvantaged background, and great outcome expectancy had a high internal locus of control. Whereas, individuals with a low level of self-efficacy and elevated levels of outcome expectancy felt less responsible for their health status had more of an external locus of control (O’Hea et al.). In the O’Hea et al. (2009) study, it appeared that a high internal locus of control was not beneficial to the patient, initially. The patient needed to adhere to the regime set forth by the physician and diabetes educator which would put the individual into an external locus of control situation. As the patient continues adhering to a

prescribed treatment plan the individual begins to control the behavior and enjoy positive results. Thus the individual moves from an external locus of control to an internal locus of control. At this point, the person begins to control the disease.

In the O’Hea et al. (2009) study there were 109 participants. Twenty-six percent were male, and 74% were female. The interaction between internal diabetes locus of control, diabetes self-efficacy, and outcome expectancy examined. I reported that individuals with a higher level of internal locus of control related to their diabetes are more likely to have greater confidence in their ability to manage their disease and follow their doctor's recommendations for diet, exercise, medication regime, and glucose monitoring. It is this belief that, performing the behaviors recommended by their physicians will result in better-controlled diabetes thus improving their overall health (O’Hea et al.).

### **Socioeconomic Status**

The topic of disadvantaged youth was studied as early as 1971 by Buck and Austrin. Buck and Austrin (1971) conducted a study of 50 African-American students from a lower socioeconomically disadvantaged background. I divided the two groups into adequate and underachievers. The underachieving group was more likely to be from a socioeconomically disadvantaged background, and their parents were not as involved in their lives. This underachieving group could be because, the parents were concerned about food, shelter, and putting clothes on their children's backs they had little time for the encouragement regarding activities such as academic success. Children from a lower socioeconomic background tended to be more externally focused depending on chance or

others to meet their needs and tended to rely on others for any success they achieved. Subsequent studies (Barlow & Chang, 2007; Taylor et al., 2007) have confirmed that patients from a lower socioeconomic background have greater difficulty maintaining a balance with eating behavior; particularly, when the individual experiences body dissatisfaction, concern for thinness, and poor sense of self-worth (Newell, 2010). Boys experienced greater underachieving than girls and were from a lower socioeconomic background (Buck & Austrin, 1971). Barlow and Chang (2007) conducted a study and determined that African-American students, in the lower socio-economic category, were more likely to experience higher BMI and emotional difficulties than Caucasian-Americans.

Buck and Austrin (1971) drew on Rotter's internal versus external locus of control that revealed the internal locus of control has a positive impact on the behavior of adolescents and eating patterns. The individual with an internal locus of control takes responsibility for behavior and outcome (O'Hea et al., 2009; Trento et al., 2008).

Furthermore, it is the individual's locus of control that helps give the individual autonomy over lifestyle, and this independence can be enhanced or diminished depending on parenting type, including how the parents teach various approaches to food and eating patterns, through modeling behavior.

### **Parenting Style**

Buck and Austrin (1971) have studied the role of mothers in the development of behavior of the child that drew on Rotter's (1954) locus of control. However, there have been more recent studies focusing on the role of mothers and fathers, and how their

observed behavior impacts eating attitudes of their children (Canals, Sancho, & Arija, 2009; Salafia, Gondoli, Corning, Buccianeri, & Godinex, 2008; Tereno et al., 2008; Zeller, Boles, & Reiter-Purtill, 2008).

Parents with a parenting style that is authoritative may produce offspring that are more stable, healthier, and happier (Lareau, 2002; McKay, 2006). The authoritative parent has rules but allows communication with the children in making laws and punishments. The authoritative approach to parenting allows the child to develop healthy relationships; particularly, the adolescent in learning how to regulate emotions and behaviors. These abilities will add to an increase in positive self-esteem and an increase of current eating patterns (Salafia et al., 2008).

Salafia et al. (2008) conducted a study using middle school participants, and the results showed that mothers who psychologically controlled their adolescent's, increased the incidence of bulimia by the time the child was in the eighth grade. The symptoms of bulimia did not surface immediately, for, in the sixth grade the adolescents' experiencing maternal psychological control would have lowered self-esteem in the seventh grade and full bulimic symptoms in the eighth grade (Salafia et al., 2008). The study by Salafia et al. (2008) as well as the study by Zeller et al., (2008) focused on Caucasian-American mothers and upper-middle-class youth. The sample did not include fathers, African-Americans and other ethnic/racial minorities, or families from a disadvantaged background. There is a need for further research in this area focusing on minorities, fathers, and economically disadvantaged groups. Mothers who present with an obese child tend to have a household with fewer rules, more temperamental children, and a

parenting style that is lower in behavior control than mothers presenting with the kids of healthy weight (Zeller et al., 2008). Since the Zeller et al. and Salafia et al. studies focused on maternal interaction and parenting patterns, replicating these studies with fathers and minorities may be an area for further research.

The eating attitudes and behaviors of parents have an impact on the eating attitudes of their children (Canals et al., 2009; Trento et al., 2007). Family functioning is an important variable when determining the prevalence of an eating disorder. While eating attitudes are necessary to evaluate, prior studies suggest girls and boys were affected differently by the family dynamics. However, only the father's eating pattern had any effect on the son as the son learns social cues from the father (Canals et al., 2009).

### **Bandura's Social Learning Theory**

Bandura's social learning theory and Rotter's locus of control help researchers better understand why certain people resort to BE and others do not (O'Hea et al., 2009). An individual's locus of control helps determine the outcome of health behavior. There has been inconsistent research in this area. Earlier studies focused on the relationship between an individual's locus of control and health behaviors such as controlling glucose in diabetic patients or BE (Wallston, 1991; Wallston, Wallston, Smith, & Dobbins, 1987). Previous research examined locus of control to the exclusion of other constructs that could have contributed to the patient's behavior (O'Hea et al., 2009). Control variables, such as God, physician, chance, or other people influencing the patient needs to be examined about their HbA1c levels (O'Hea et al., 2009). When individuals are in recovery from substance abuse many believe in God or a higher power that helps that



individual realize there is something greater to help in recovery. Physicians and family members, including parents, extended family, or siblings can help an individual adhere to a medical regimen that can help control a chronic disease such as diabetes. Internal locus of control determines how an individual will respond to a particular situation.

Furthermore, a person's internal locus of control involves an inner strength to control his or her behavior.

### **Eating Plan and Exercise**

With individuals that BE, increased physical activity becomes an internal locus of control as the person takes responsibility for his or her activity level (Nowicki, Adame, Johnson, & Cole, 1997). The individual expects to do well as he or she increases physical activity. The reinforcement of family and the social network further can give the patient added confidence (Nowicki et al.). There is research that also supports the importance for a strong social support network (Wiczinski et al., 2009). As diet and exercise regimes are in place, the influence of friends become more important than family. The individual begins looking for friends for support in applying and comparing dietary notes (Drewknowski et al., 1994; Lobera, Cid, Fernandez, & Rios, 2011; Nowicki et al., 1997; Wiczinski et al., 2009). If the individual depends on support from the social network an external locus of control is prominent. The establishment of an internal locus of control, on the other hand, helps the individual adhere to the regime. A social network is beneficial in helping keep the person on track; however, ultimately the responsibility of adherence rests with the individual (Nowicki et al., 1997). Parents and other family members set the tone for modeling behavior an adolescent can follow. As the person

enters adulthood, this modeling becomes part of a lifestyle (Canals et al., 2009; Trento et al., 2007; Zeller et al., 2008).

### **Conclusion**

BE eating occurs when an individual consumes a large quantity of food in a short amount of time and a discrete manner (American Psychiatric Association, 2000). BE has been considered a female disorder because men have not been studied as much about BE. Research projects on BE have focused on women participants. Therefore, there is a gap in the literature as to how men respond to BE, and the medical problems that may result from engaging in such activity (Gentile et al., 2007; Grilo & Masheb, 2004; Job et al., 2010; Linde et al., 2004; Reagan & Hersch, 2004).

Bandura's social learning theory and Rotter's locus of control have an impact on an individual's behavior with BE (O'Hea et al., 2009). Research has shown that a person with an internal locus of control is more successful in treatment for BE because that person tends to take more responsibility for his or her behavior (Harvey et al., 1973; O'Hea et al.), 2009. Researchers need to conduct additional research on the impact of internal locus of control with men and how this may affect future behavior.

BE is often accompanied by obesity and can lead to serious medical consequences such as type 2 diabetes, hypertension, and elevated cholesterol levels. When these problems emerge, the PCP becomes important in helping the individual develop a treatment plan to manage these difficulties. The PCP may choose to refer the person to a nutritionist and diabetes educator to work with the patient in developing an eating and exercise plan so diabetes can be managed (Drewnowski et al., 1994; Nowicki et al.,

1997). Future research would add to an understanding of BE comparing an obese population versus a nonobese population.

Exercise has a positive impact on body image, and men and women differ on how they view their bodies and the reasons for exercising and dieting (Drewnowski et al., 1994). For the long-term effect on weight loss, social influences are important factors on how people perceive themselves (Drewnowski et al., 1994). Lifestyle changes help the individual achieve long-term goals (Drewnowski et al., 1994; Lobera et al. 2011).

Additional research would add to the literature of the long-term impact of lifestyle changes for men as they differ from women. Men look to gain weight and muscle mass (Drewnowski et al., 1994.). A difference exists in the cultural impact of BE, and how African-Americans and Caucasian-Americans differ. African-Americans do not have a concern about body dissatisfaction, weight, and shape that Caucasian-Americans experience (Masheb & Grilo, 2005; Grilo et al., 2008; Regan & Cachelin, 2005; Taylor et al., 2007). In recent years, there has been an increase in BE episodes among African-Americans, so additional research would benefit that population and add to an understanding as to why there is an increase in BE among African-Americans (Taylor et al., 2007).

Parenting style is important when helping children and adolescents form attitudes about eating patterns (Barlow & Chang, 2007; Canals et al., 2009; Trento et al., 2008; Zeller et al., 2009). Mothers have an influence on eating behaviors by modeling eating patterns and body dissatisfaction; however, a father's influence regulates to eating behavior, and how his behavior and attitude toward food influences the eating pattern of

his sons and daughters (Canals et al., 2009). Further research is needed to study the impact of childhood and adolescent eating behavior as the individual enters adulthood. A longitudinal study would be necessary to follow the population from childhood into adulthood. It would be important to assess the long-term effects of parental eating attitudes on youth and comparing the eating behavior between the Caucasian-American and African-American populations. In chapter 3, I presented the research design and why a cross-sectional quantitative design was the best approach to this study.

## Chapter 3: Research Method

### **Introduction**

This section included a description of the research design and methodology that was utilized to analyze the relationship between BE, LOC, and ethnicity in men. A quantitative method was used to determine if African-American men experience greater body dissatisfaction and have a higher locus of control than Caucasian-American men. A quantitative method is one that can use a systematic approach to testing theories by using inferential statistics that help reveal the nature of the relationship between two variables (Creswell, 2009). Using a quantitative method helped establish a relationship between men and LOC as measured on the IPC (Levenson, 1981), body dissatisfaction as measured by the BDQ (Cooper, Taylor, Cooper, & Fairburn, 1987), and eating behaviors as measured by the EAT-26 (Garner et al., 1982). This method also allowed for the comparison between the two ethnic groups (African-American and Caucasian-American) about BE, LOC, and body dissatisfaction.

Reas et al. (2005) used a quantitative research method to analyze the attitudes and eating behaviors of study participants. Furthermore, I used a quantitative method to test the theory, and it was helpful in assessing whether Bandura's social learning theory and Rotter's locus of control theory can apply to men of African-American and Caucasian-American ethnicity. A quantitative survey research method and how the research population was selected was discussed, in detail. I included a description of instruments that used for data collection as well as an overview of the data collection process and the

proposed data analysis. The chapter concluded with an explanation of the description of the measures that were used to ensure participants' privacy.

### **Design Overview**

I used A cross-sectional quantitative research design for this study. The rationale for using a cross-sectional quantitative study design was that this design allows for collecting data in a short amount of time, is cost effective, and can gather a large amount of data quickly (Gravetter & Wallnau, 2007). Inferential statistics was also utilized to analyze data (Gravetter & Wallnau). To study across other ethnicities, I suggest further research.

I used a cross-sectional survey research design because the information was gathered on the eating attitudes and behaviors and comparing two ethnicities: African-American and Caucasian-American men. To compare these two ethnicities data was collected from a sample research population, including participants from the Walden University Research Participation Pool and men who are self-described binge eaters from the African-American and Caucasian- American ethnicity in the community. After signing a consent form, the participants were asked to fill out a demographic questionnaire, the EAT-26, the IPC, and the BSQ. I did not assign participants randomly. The members appointed themselves in a group according to ethnicity. Results from these instruments were used to test the hypotheses and research questions of this study.

## **Participants and Sample**

### **Participants**

The number of participants for this study included a convenience sample of 150 men of Caucasian-American and African-American ethnicities. The U.S. Census Bureau (2013) estimated the 2010 population at approximately 309 million with the population of men at about 152 million. The people of the age range for men older than 18 but younger than 80 was 34% (US Census Bureau, 2013). The age range in the Census Bureau listed the 15-19 years old so I could not predict the age range of the 18 and 19-year-olds for that data is unavailable (US Census Bureau, 2013). The estimated U.S. population of Caucasian-Americans is approximately 224 million and for African-Americans is about 39 million. The population by ethnicity was not divided by gender so I could not comment on the number of Caucasian-American men versus the number of African-American men (US Census Bureau, 2013).

I recruited the research participants from the Walden University participation pool and men who are self-described binge eaters from the African-American and Caucasian-American ethnicity in the community. According to the Walden University website, the total census is 47,771 and 10,940 (22.9%) are male. Ethnicity breakdowns include 22,548 (47.2%) white and 19,299 (40.4%) black males. The census does not divide the ethnicity by gender (Walden University's Office of Institutional Research and Assessment, 2013).

I split the research participants into two groups: Caucasian-American and African-American men. I chose these ethnicities because there is a gap in the literature as much of the research on eating disorders focus on middle-class white female. I selected

no educational level, age, height, weight, and I used BMI as demographic information. Participation was voluntary, the participants were able to stop participation if they chose, there was no financial compensation for participation, and all identifying information was deleted using a secure password system. All data was self-reported. This research was conducted to expand research already undertaken, fill the gap in existing research, and compare ethnicities, as well as identify areas for further studies.

### **Sample Size**

A power analysis of GPower3 was used to determine an appropriate sample size for this research. A medium effect size ( $f=.50$ ) was adequate for this study. Thus the proper sample size will be set at 150 with a medium effect size. I conducted data analysis with a chi-square. A chi-square statistic is a nonparametric test, and the sample does not have ordinal or numerical placements (Gravetter & Wallnau, 2007).

As previously stated, the population sample was made up of volunteers, and there was no payment for participating in this study. Research participants signed a consent form, and the procedure was explained to them as well as the fact that they can withdraw from this study at any time without any repercussions. Once the consent form was read, described, and electronically signed, research participants proceeded to SurveyMonkey and began taking the survey. There was a questionnaire to obtain demographic information such as age, marital status, height, weight, income range, and the highest level of education. The research participants could not have an eating disorder diagnosis or be in treatment for an eating disorder. I eliminated research participants if there was an



eating disorder diagnosis or previous treatment for an eating disorder. Once the participants completed the questionnaires, they clicked to exit the study.

I included men above the age of 18, who have not had an eating disorder. These men also needed to be able to give informed consent and speak and understand English. I excluded women, males under the age of 18, participants unable to speak or understand English, and individuals diagnosed with BE or other ED. There was no upper age restriction.

### **Procedures**

I protected data from the research participants using a password protected thumb drive. Ethical issues were determined and addressed by Walden University's Institutional Review Board (IRB). As previously stated, the research participants were from Walden University's Research Participation Pool and men who are self-described binge eaters from the African-American and Caucasian-American ethnicity, in the community. After signing the consent form, I directed the research participants to a SurveyMonkey search engine website where they took the survey. The study consisted of answering demographic questions on a questionnaire then filling out the EAT-26, IPC, and BSQ. I informed the research participants could withdraw from the study should they choose, after starting the survey. I made contact information available so the study participants could contact me with any questions as they arose. Once the participants began taking the survey, I provided my name, phone number, and email address so members could contact me. To further protect the privacy of the research participants they were asked to sign a consent form (Appendix A). The consent form included information such as the purpose

of the study, the privacy of the research participants, freedom to withdraw from the study, and there was no financial transaction for participating. I explained how this data was to be used and stored. The research participants then proceeded to fill out the survey. I presented The EAT-26 in Appendix B, the IPC in Appendix C, and the BSQ in Appendix D (Raky, 2013). I put the data into the Statistical Program for the Social Sciences (SPSS) version 20.0 for analysis.

### **Instrumentation and Materials**

Besides a demographic questionnaire, I used the EAT-26, IPC, and BSQ. The participants needed to have access to a computer so they could fill out the instruments which should not take any longer than 20 minutes.

#### **Eating Attitude Test-26**

The EAT-26 is a 26 item instrument that addresses eating attitudes using a 6-point Likert Scale. The responses range from always, usually, often, sometimes, rarely, and never (Garner, Olmsted, Bohr, & Garfinkel, 1982). I included several behavioral questions at the end of the EAT-26; answered either yes or no. The behavioral questions ask the participants if he has vomited, binged, used laxatives/diuretics, or exercised to control weight (Garner et al., 1982).

The EAT-26 consists of three subscales that form the basis for identifying BN, weight body-image variables, and psychological symptoms. Norms for AN presented in the EAT-26. It is concluded that the EAT-26 is a reliable and valid instrument which may be useful as an objective measurement of the symptoms of ED, particularly AN (Garner et al., 1982). The EAT-26 developed before dividing AN and BN into separate categories

(Mintz & O'Halloran, 2000). Garner et al. (1982) stated the psychometric features of the EAT-26 was published and indicated that alpha levels elevated from .89 to .93, showing the validity for this instrument. Furthermore, Garner et al. (1982) stated that this measurement is positively correlated with appearance- related self-objectification ( $r = .30$ ) and internalized shame ( $r = .47$ ). The EAT-26 set the negative association with self-esteem ( $r = -.181$ ).

Larsen, van Strien, Eisinga, Herman, & Engels (2007) used a test-retest reliability and internal consistency of the EAT-26, by using a sample of 164 girls were recruited for a study. The participants completed the EAT-26 as well as the Dutch Eating Behavior Questionnaire-Restraint Scale, and the Body Figure Rating Questionnaire (Larsen, et al.). The researchers reported that the EAT-26 had adequate internal consistency and significant test-retest 78 and reliability with correlations ranging from .82 to .90 (Larsen et al., 2007). Larsen et al., determined internal reliability with Cronbach's alpha coefficients ranging from .70 to .94 ( $p < .001$ ), suggesting that internal consistency was adequate (Banasiak, Wertheim, Koerner, & Voudouris, 1999). The EAT-26 has a cut-off score of 20, and any score  $\geq 20$  suggests the participant receive additional assistance from a mental health provider to ascertain if an eating disorder, such as AN or BN, exists (Garner et al., 1982). Whereas a cut of score  $\geq 20$  suggests AN or BN, O'Hea et al., (2009) reported that a reduction of score  $\geq 11$  could indicate an eating disorder and the individual should go for additional evaluation by a mental health professional who specializes in eating disorders.

### **Internally Powerful Others, and Chance Scale (IPC)**

The IPC is a 24-item inventory scale that uses a 5-point Likert scale. The responses to questions are strongly agree = -3, disagree = -2, slightly disagree = -1, slightly agree = 1, agree = 2, and strongly agree = 3. (Levenson, 1981). There are three subscales to the IPC: Internality, Powerful Others, and Chance. Examples of questions asked on the IPC are: “Whether or not I get to be a leader depends on my ability”, “I feel like what happens in my life is mostly determined by powerful people”, and “often there is no chance of protecting my personal interests from bad luck happenings” (Levenson, 1981).

Levenson, (1974) conducted a study (N=152) to test the internal consistency and reliability of the IPC. The Kuder-Richardson reliabilities yielded .64 for the I Scale, .77 for the P-Scale, and .78 for the C Scale. Similar results found in a study by Wallston, Wallston, and DeVellis (1978) (N=115) that produced results of .51 for the I Scale .72 for the P-Scale, and .73 for the C Scale. Levenson (1973a) had similar results in a hospitalized psychiatric sample at .67 for the I Scale, .82 for the P-Scale, and .79 for the C Scale.

### **Body Shape Questionnaire (BSQ)**

The BSQ is a 34-item instrument used to assess preoccupation and concern about body shape. The BSQ uses a 6-point Likert scale, and the responses can range from never, rarely, sometimes, often, very often, and always (Rosen, Jones, Ramirez, & Waxman, 1996). The research questions will answer the hypotheses comparing body

dissatisfaction, the locus of control, and binge eating in Caucasian-American and African-American males.

Concurrent and discriminate reliability is good for AN and BN in the BSQ. The validity of the BSQ correlated with body dissatisfaction subscales of the Eating Disorder Inventory and the total scores of the EAT-26 (Cooper et al., 1982). The reliability coefficient was  $.88$   $p < .001$ . The reliability coefficients were significant at  $p < .01$  for all 34 items (Rosen et al., 1987). Cooper et al. (1982) used the BSQ to test for concurrent validity. Rosen et al. used Pearson's  $r$  to correlate the BSQ with the Body Dissatisfaction subscale of the Eating Disorder Inventory (EDI) and the EAT. Participants answering the BSQ correlated moderately high on the EAT ( $0.35$   $p < .02$ ) and very high with the EDI body dissatisfaction ( $0.66$   $p < .001$ ).

### **Demographic Data**

A questionnaire was used to collect demographic data about ethnicity, gender, age range, education level, marital status, work status, a range of income, remedial assistance in school, and if there is an ED diagnosis. Published results did not use identifying information about the research participants. The raw data was available upon request and will be kept, by me, for up to 5 years. I transferred the collected data to the Statistical Package for the Social Sciences (SPSS) version 20.0 for analysis. The research participants had access to the survey through SurveyMonkey. I gave the study participants from Walden's Research Participation Pool and men who are self-described binge eaters from the African-American and Caucasian-American ethnicity in the community a consent form to sign (Appendix A). The consent form outlined potential

ethical issues. Research participants from the community contacted me, if they felt the need for further explanation about the research project, after receiving contact information through newspaper advertisements. Research Participants did not receive any remuneration for completing this survey. Table 1 includes descriptive data and variables about the population and how they are measured.

Table 1

*Demographic Data and Variables*

Variable	Measure
Demographic data	Data collected on demographic questionnaire
Age	Self-reported in years. Participants below 18 were eliminated. There will be no upper age limit
BMI formula	BMI was measured by the following: weight in pounds (703)/height in inches (2) Participants will self-report their weight
ED symptoms	ED symptoms are rated using the EAT-26. T-26 is a 6 point Likert Scale. A score $\geq 20$ indicates possible anorexia or bulimia (Garner et al., 1982). A score $\geq 11$ indicates a possible eating disorder such as binge eating and suggests further Evaluation (O’Hea et al., 2009). A score $\geq 20$ and $\geq 11$ both suggests further evaluation (Garner et al., 1982; O’Hea et al., 2009).
Ethnicity/Gender	African-American or Caucasian-American males
Height	Self-report in inches
Weight	Self-report in U.S. Pounds
Level of education	No particular level of education
Income Brackets	<\$20,000 \$20,001–40,000 \$40,001–60,000 \$60,001–85,000 \$85,001–100,000

>\$100,000

Previous or current diagnosis of BE

Answer yes or no; If the answer is 'yes,' the data will be eliminated.

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### **Data Analysis**

I used descriptive statistics to determine, gender, weight, height, a level of income, a level of education, and ethnicity. I utilized Chi-square to test the hypotheses. I set the research population at 150 participants with the alpha = .05 significance.

Hypotheses and Null Hypotheses:

H1A: There will be differences between African-American and Caucasian-American males regarding African-American men having a higher locus of control and less tendency to binge eat as measured by the Eating Attitude Test-26 and the Internality, Powerful Others, and Chance Scales.

H1o: There will be no difference between African-American and Caucasian-American males concerning African-American men having a higher locus of control and less tendency to binge eat as measured by the Eating Attitude Test-26 and Internality, Powerful Others, and Chance Scales.

I used the Chi-square to test hypothesis 1 which determined if African-American and Caucasian-American males differed regarding African-American men having a higher locus of control and less tendency to binge eat.

H2A; African-American men will have greater feelings of body dissatisfaction than Caucasian-American men as measured by the body Satisfaction Questionnaire.

H2o: African-American men will not have a greater sense of body dissatisfaction than Caucasian-American men as measured by the Body Satisfaction Questionnaire.

I used the Chi-square to test hypothesis 2 which determined if African-American men have greater feelings of body dissatisfaction than Caucasian-American men.

### **Measures Taken for Protection of Participants**

Walden University's Institutional Review Board (IRB) reviewed this proposal to protect the confidentiality and well-being of the participants. Once the IRB gave their approval, I began collecting data. I also completed the web-based training course Protecting Human Research Participants provided by the National Institute of Health Office of Extramural Research. I gave research participants a consent form to sign. The consent form detailed the research study, the purpose of the survey, how the data was to be collected, used, and stored (Creswell, 2009). I informed the study participants that after completing the inquiry, they could withdraw at any time without any repercussions (Creswell, 2009). To protect the privacy of the research participants, I gave each participant a code provided through SurveyMonkey (SurveyMonkey, 2013). I also received a code to provide confidentiality of the study participants (SurveyMonkey, 2013). As previously stated, I provided contact information such as name, phone number, and email address in the event a member needed to contact me with questions about the research project. I intended no harm through this research project (Creswell, 2009). There was no conflict of interest identified.

As previously noted, I presented a consent form to each research participant outlining the purpose of the research study. I, also, explained confidentiality of the study



participants. I discussed how the data was to be collected and stored. I told the study participants could withdraw after completing the survey without any repercussions (Creswell, 2009). The consent form also included information about each study participant receiving an ID code that protected their identity. When I received the data, I had a system that prevented me from being able to identify individual research participants (SurveyMonkey, 2013).

### **Conclusion**

Chapter 3 included the methodology I used in this research project as well as my rationale for using a quantitative research design. I described the participants, for this study, research population sample, size, instruments used to collect the data, analysis, results, and ideas for further research. I presented an explanation for keeping data private and protecting the privacy of the study participants. I discussed the validity and reliability of the instruments, ethical considerations, and my plans for data analysis. In chapter 4, I presented the results of the research and chapter 5 an explanation of the findings, interpretations, the implication for social change, and areas for further studies.

## Chapter 4: Results

### **Introduction**

The purpose of this quantitative study was to explore and compare binge eating episodes, locus of control, and body dissatisfaction between African-American men and Caucasian-American men. In this Chapter, I described the participant sample, how the data was cleaned, and how outliers were removed. I followed the descriptions by a brief summary of the findings and a detailed description of the data analysis and results.

Finally, this chapter ended with a brief chapter summary and a transition to chapter 5.

### **Pre-Analysis Data Cleaning**

#### **Outliers and Missing Data**

The initial sample size of this study was 149 participants. Data was screened for missing data and outliers. The presence of outliers was tested by the examination of standardized values (z-scores). Values beyond  $\pm 3.29$  are considered to be outliers (Tabachnick & Fidell, 2012). Participants were also examined for significant amounts of missing data (i.e., greater than 50% of the survey questions). Using this criteria, 26 (17.4%) participants were removed, leaving a total of 123 participants for the final analyses.

#### **Composite Scores**

In order to use locus of control, tendency to binge eat, and body dissatisfaction as variables in the analyses, I needed to create composite scores. I created the variables corresponding to the internality subscales of locus of control, powerful others, and chance

using the median composite score. The variable for tendency to binge eat was created using a median composite score from the items corresponding to subscale part B of the EAT-26 assessment. Only part B of the subscale was used because, upon examination of the participant's responses to Part C, no variability amongst participants was found. I created the Body Dissatisfaction using a median composite score. These computations allowed for three individual scores to represent each of the dependent variables.

### **Cronbach's Alpha**

I used Cronbach's alpha coefficients to assess the reliability of the composite scores that were created. Cronbach's alpha coefficients were evaluated using the guidelines suggested by George and Mallery (2016) where  $> .9$  Excellent,  $> .8$  Good,  $> .7$  Acceptable,  $> .6$  Questionable,  $> .5$  Poor,  $< .5$  Unacceptable. According to these guidelines, reliability for tendency to binge eat was in the acceptable ( $\alpha = .79$ ) range, while the reliability for internality ( $\alpha = .91$ ), powerful others ( $\alpha = .95$ ), chance ( $\alpha = .91$ ), and body dissatisfaction ( $\alpha = .96$ ) were all in the excellent range. I presented Cronbach's alpha scores for the composite scores in Table 2.

Table 2

#### *Cronbach's Alpha Reliability for Composite Scores*

Composite Score	$\alpha$	Number of items
Internality	.91	8
Powerful others	.95	8
Chance	.91	8
Tendency to binge eat	.79	26
Body dissatisfaction	.96	31

### Descriptive Statistics

The sample consisted solely of African-American and Caucasian-American adult males with no specific level of education required. Of the 123 final participants, the slight majority were Caucasian-American ( $n = 66$ , 53.70%). The average age of the participants was 48.50 years ( $SD = 19.92$ ), with a current average weight of 193.13 pounds ( $SD = 27.30$ ). The average highest weight of the participants was 205.20 pounds ( $SD = 27.42$ ), the lowest average adult weight was 171.10 pounds ( $SD = 12.60$ ), while their average ideal weight was 178.73 pounds ( $SD = 7.92$ ). Participants had completed an average of 14.91 years of education ( $SD = 3.03$ ), and the most common highest level of education completed was high school or equivalency ( $n = 28$ , 22.40%) followed closely by master's degree ( $n = 27$ , 21.6%). The most commonly reported taxable income bracket in 2014 was both \$20,001-\$35,000 ( $n = 30$ , 24.00 %) and \$50,001-\$75,000 ( $n = 30$ , 24.00%). All but 2 participants had never been diagnosed with an eating disorder by a medical or mental health professional (97.6%). I presented all means and standard deviations in Table 3. I reported all frequencies and percentages in Table 4.

Table 3

*Means and Standard Deviations for Demographic Information*

Variable	Min	Max	<i>M</i>	<i>SD</i>
Age	18	87	48.50	19.92
Years of education completed	7	26	14.91	3.03
Current weight (lbs)	155	398	193.13	27.30
Highest weight (lbs)	145	398	205.20	27.42
Lowest adult weight (lbs)	140	215	171.10	12.60
Ideal weight	160	220	178.73	7.92

Table 4

*Frequencies and Percentages for Demographic Information*

Variable	<i>n</i>	%
Ethnicity		
Caucasian-American	66	53.7
African-American	57	46.3
Eating Disorder Diagnosis		
Yes	2	1.6
No	120	97.6
Highest level of education completed		
No high school diploma	11	8.9
High school diploma or equivalency	27	22.0
Technical or trade school	13	10.6
Associate's degree	16	13.0
Bachelor's degree	26	21.1
Master's degree	27	22.0
Doctoral degree	3	2.4
Taxable income (2014)		
\$0-\$10,000	6	4.9
\$10,001-\$20,000	13	10.6
\$20,001-\$35,000	29	23.6
\$35,001-\$50,000	25	20.3
\$50,001-\$75,000	30	24.4
\$75,001-\$100,000	17	13.8
\$100,001-\$125,000	3	2.4

**Summary of the Results**

I used a series of chi-squares to assess the relationship between the subscales of locus of control (internality, powerful others, chance) and ethnicity. These chi-squares were significant (Internality =  $\chi^2(4) = 30.43$ ,  $p < .001$ , Powerful Others =  $\chi^2(8) = 50.06$ ,  $p < .001$ , Chance =  $\chi^2(5) = 43.90$ ,  $p < .001$ ), and suggested that African-American men tended to feel that they had less internal power, that others had more power, and that events in their life are more up to chance than Caucasian-American men did. There was

no significant relationship between tendency to binge eat and ethnicity ( $\chi^2(2) = 0.79, p = .674$ ). I performed a final chi-square in order to assess the relationship between body dissatisfaction and ethnicity. This chi-square was significant ( $\chi^2(2) = 13.62, p < .001$ ), and indicated that African-American men reported less feelings of body dissatisfaction when compared with Caucasian-American men.

### **Detailed Analysis**

#### **Research Question 1**

What are the relationships between binge eating, locus of control, and ethnicity in men? In order to assess this research question, a chi-square analysis was performed between the subscales of locus of control (internality, powerful others, chance), binge eating, and ethnicity. The results for internality were significant,  $\chi^2(4) = 30.43, p < .001$ , indicating that there is a significant relationship between the subscale of internality and ethnicity.

Examination of the observed values and percentages in each category suggests that the majority of the responses that correspond to the lowest levels of internality were made by African-American men (Level -1:  $n = 22, 78.60\%$ ; Level 0:  $n = 6, 100.00\%$ ) suggesting that African-American men felt they had less power in their lives than Caucasian-American men did (Level -1:  $n = 6, 21.4\%$ ; Level 0:  $n = 0, 0.00\%$ ). No African-American man answered “strongly agree” to any question relating to internality, which suggests that only Caucasian-American men showed the highest levels of internality ( $n = 2, 100\%$ ). See Table 5 for full results of the chi-square.

Table 5

*Chi-Square Results Between Internality and Ethnicity*

Internality	Ethnicity	
	Caucasian-American	African-American
-1	6 (21.40%)	22 (78.60%)
0	0 (0.00%)	6 (100.00%)
1	13 (50.00%)	13 (50.00%)
2	45 (73.80%)	16 (26.20%)
3	2 (100%)	0 (0.00%)

*Note.*  $\chi^2(4) = 30.43, p < .001$ ; Percentages are within each level of internality, not overall for ethnicity.

The results of the chi-square between the subscale powerful others and ethnicity showed a significant relationship ( $\chi^2(8) = 50.06, p < .001$ ), as well. African-American men, more often, responded in ways that indicated they felt others held the power in their lives (Level 2:  $n = 7, 77.80\%$ ; Level 1:  $n = 35, 83.30\%$ ), whereas Caucasian-American men responded in ways that indicated they did not feel that others held more power in their lives (Level -3:  $n = 1, 50.00\%$ ; Level -2:  $n = 27, 84.40\%$ ). I presented the results of this chi-square in Table 6.

Table 6

*Chi-Square Results Between Powerful Others and Ethnicity*

Powerful Others	Ethnicity	
	Caucasian-American	African-American
-3	1 (50.00%)	1 (50.00%)
-2	27 (84.40%)	5 (15.60%)
-1	27 (77.10%)	8 (23.00%)
0	2 (66.70%)	1 (33.30%)
1	7 (16.70%)	35 (83.30%)
2	2 (22.20%)	7 (77.80%)

*Note.*  $\chi^2(8) = 50.06, p < .001$ ; Percentages are within each level of powerful others, not overall.

The chi-square between chance and ethnicity was also significant,  $\chi^2(5) = 43.90$ ,  $p < .001$ , indicating that there is a significant relationship between ethnicity and the participant's feeling that events in their life are up to chance. More African-American men responded in ways that suggest they feel like they have higher amounts of chance controlling their lives (Level 1:  $n = 37$ , 84.10%) when compared to Caucasian-American men (Level 1:  $n = 7$ , 15.90%). I presented the results of this analysis in Table 7.

Table 7

*Chi-Square Results Between Chance and Ethnicity*

Chance	Ethnicity	
	Caucasian-American	African-American
-3	0 (0.00%)	1 (100%)
-2	19 (79.20%)	5 (20.80%)
-1	36 (78.30%)	10 (21.70%)
0	3 (50.00%)	3 (50.00%)
1	7 (15.90%)	37 (84.10%)
2	1 (50.00%)	1 (50.00%)

Note.  $\chi^2(8) = 50.06$ ,  $p < .001$ ; Percentages are within each level of chance, not overall.

The results of the chi-square examining tendency to binge eat and ethnicity were not significant,  $\chi^2(2) = 0.79$ ,  $p = .674$ , which indicates no relationship between ethnicity and the tendency to binge eat. I reported the results of this chi-square in Table 8.

Table 8

*Chi-Square Results Between Tendency to Binge Eat and Ethnicity*

Tendency to binge eat	Ethnicity	
	Caucasian-American	African-American
4	3 (75.00%)	1 (25.00%)
5	35 (52.20%)	32 (47.80%)
6	28 (53.80%)	24 (46.20%)

Note  $\chi^2(2) = 0.79$ ,  $p = .674$ ; Percentages are within each level of tendency to binge eat, not overall.



## Research Question 2

Do African-American men have feelings of greater body dissatisfaction; compared to Caucasian-American men? In order to answer research question 2, a chi-square was performed comparing ethnicity and body dissatisfaction. The results of the analysis were significant,  $\chi^2(2) = 13.62, p < .001$ , indicating that there is a significant relationship between ethnicity and body dissatisfaction. However, African-American men tended to show lower levels of body dissatisfaction (Level 1: 39, 61.90%) when compared to Caucasian-American men (Level 1: 24, 38.10%). I presented the full results of the chi-square in Table 9.

Table 9

### *Chi-Square Results Between Body Dissatisfaction and Ethnicity*

Body dissatisfaction	Ethnicity	
	Caucasian-American	African-American
1	24 (38.10%)	39 (61.90%)
2	35 (70.00%)	15 (30.00%)
3	7 (77.80%)	2 (22.20%)

*Note*  $\chi^2(2) = 13.62, p < .001$ ; Percentages are within each level of body dissatisfaction, not overall.

## Chapter Summary

This chapter began with a restatement of the research purpose, and moved into a description of the sample as well as a summary of the results. A detailed analysis followed, indicating that African-American men tended to feel that they had less internal power, that others had more power, and that events in their life are more up to chance than Caucasian-American men did. Results also indicated that there was no significant

relationship between tendency to binge eat and ethnicity, and that African-American men reported less feelings of body dissatisfaction overall when compared with Caucasian-American men. Chapter 5 discussed the results along with the relative strengths and limitations of the study, implications for social change, and ended with suggestions for future research.

## Chapter 5: Interpretation of Findings

### Introduction

The purpose of this study was to explore and compare binge eating episodes, a locus of control, and body dissatisfaction between African-American and Caucasian-American men. There has been a good deal of research on Caucasian-American women, middle-class populations, highly educated individuals, and binge eating. However, research on men, including men from racially diverse communities, and binge eating remains under-represented in the literature (Racine, Burt, Lacono, McCue, & Klump, 2011; White, Masheb, & Grilo, 2009). Also, research has shown connections between genetic influences, binge eating, and dietary restraint (Racine et al., 2011). Social learning theory (Bandura, 1977) and locus of control theory (O'Hea et al., 2009) served as the theoretical foundation for the study because these theories can help explain why individuals resort to binge eating or use restraint and others do not.

Findings indicated that African-American men tended to feel they had less internal control than Caucasian-American men. Furthermore, African-Americans believed others had more control and that events in their lives were more open to chance than Caucasian-American men. African-American men indicated they had a feeling of less power in their lives. There was no significant relationship between the tendency to binge eat and ethnicity. African-American men reported fewer feelings of body dissatisfaction overall when compared with Caucasian-American men who indicate there is a significant relationship between ethnicity and body dissatisfaction. This chapter includes sections on interpretations of the findings, implications for research and practice,

implications for social change, and limitations of the study. Also included are recommendations for future research and a conclusion.

### **Interpretation of the Findings**

The following research questions were designed to explore and compare binge eating episodes, a locus of control, and body dissatisfaction between African-American and Caucasian-American men:

RQ1—What is the relationship between binge eating, a locus of control, and ethnicity in men?

RQ2—Do African-American men have feelings of greater body dissatisfaction; compared to Caucasian-American men?

### **Research Question 1**

I used a chi-square analysis between the subscales of locus of control (e.g., internality, powerful others, and chance), binge eating, and ethnicity, to determine if there were significant relationships between binge eating, a locus of control, and ethnicity in men. Only the results for internality were significant, indicating that there was a significant association between the subscale of internality and ethnicity. The lowest values of internality were made by African-American men, suggesting that African-American men felt they had less power in their lives than Caucasian-American men did. These findings support research by Weiner et al. (1974) that Caucasian-American men had a higher internal locus of control in their lives and that African-American men felt they had less power over the happenings in their lives. Weiner et al. is an older study, and more recent studies could add to the literature. Caucasian-American men could have a

greater internal locus of control due to higher educational status or SES.

Several psychosocial factors help influence an individual's eating behavior such as race, income levels, age, empowerment issues, and unemployment status. Thompson-Brenner et al. (2013) conducted a study and found that African-Americans were more likely to have problems with binge eating and drop out of treatment than Caucasian-Americans. Additionally, lower levels of education were linked to greater post-treatment issues (Thompson-Brenner et al., 2013). Because racism and lack of empowerment in part involve restricting individuals' control over their lives, it could be that groups who experience racism and lack of empowerment feel less control over their eating behaviors than groups who do not experience racism.

A lower level of education could also have an influence on self-esteem issues and empowerment. The present study showed that individuals with a higher standard of education had a greater feeling of internality, suggesting that training gives a person greater sense of being in control of their behavior and life choices. While the present study included questions about income level and educational status, the results were not unique to a particular degree of education or SES. An individual with a master's degree would have a greater internal LOC and a greater feeling of empowerment than a person with a high school diploma and no training beyond the high school level. These findings do not align with those of Reagan and Hersch (2005) who reported that the frequency of BE was not associated with age and not affected by education or ethnicity. Shorr and Young (1984) also indicated that internality was significant as it related to both social-economic status and ethnicity. Bennett and Dodge (2007) recommended the need to study

locus of control in individuals of other ethnicities to ascertain if the findings would be valid for other ethnicities.

I used a chi-square analysis to determine if African-American men felt that others held more power over their lives (e.g., an external locus of control). The results were significant in that African-American men responded in ways that indicated they felt others held power in their lives; whereas, Caucasian-American men reported they did not feel others held more power in their lives. O'Hea et al. (2009) purported that individuals with a chronic disease exhibited greater control over their lives to control their disease. At the onset, doctors and other members of the person's healthcare team would set a regime that, when followed, gave the individual greater satisfaction as the individual took greater control over managing their care. Also, children from lower economic backgrounds felt that others had greater power over their lives and had greater difficulty maintaining healthy eating behaviors (Hewell, 2010; Barlow & Chang, 2007; Taylor et al., 2007).

Locus of control involves individuals' ability to influence their actions and can help determine the outcome of health behaviors (O'Hea et al., 2009). A person with an internal locus of control takes responsibility for behavior and reaction to events and usually has a higher level of self-esteem (Burkhart & Rayens, 2005; Weiner et al., 1974). An external locus of control occurs when decisions are out of control of the individual, such as Medicare making decisions to cover or not cover medical issues as people age (Harvey, Barnes, Sperry, & Harris, 1973).

Franko et al. (2012) conducted a study comparing several ethnicities and found

that African-Americans showed greater restraint in controlling food intake indicating that they had greater internality than their Caucasian-American counterparts about the amount of food eaten. The findings of the present study do not align with the results of Franko et al., which showed that African-American men felt others held power in their lives.

Franko et al. only reviewed the eating attitudes of African-American and Caucasian-American men and determined that socioeconomic levels were a greater predictor for BE than educational levels. Binge eating was more significant among African-American men than Caucasian-American men, according to a study by Taylor et al. (2007). Other factors determining the level of internality were not presented in the Franko et al. study; therefore, there may indeed be a greater feeling of others having power over them in the African-American culture as indicated in this study.

Findings on the connection between ethnicity and binge eating have been mixed and inconclusive. For example, Sorbara and Geilebtar (2002) found that Caucasian-American men were more likely to binge eat than African-American men. However, Franko et al. (2012) and Reagan and Hersch (2004) found that ethnicity was not a significant factor in binge eating and that there was no relationship between ethnicity and binge eating. I used a chi-square in the present study to examine the tendency to binge eat and ethnicity, and the results were not significant. My findings add to the uncertain and mixed nature of the connection between ethnicity and binge eating.

## **Research Question 2**

I used a chi-square analysis comparing Ethnicity and body dissatisfaction. The results revealed that there was a significant relationship between ethnicity and body

dissatisfaction. African-American men reported less body dissatisfaction than Caucasian-American men did. This finding supports the research of Altabe, (1998), Grilo et al. (2004), Masheb and Grilo (2005), and Reagan and Cachlin (2006) that Caucasian-American men were more dissatisfied with their body image than African-American men. Previous findings and the results of the present study suggest that African-American men are less concerned with body image than Caucasian-American men are or that African-American men are more satisfied with their body image than Caucasian-American men.

Previously conducted, research on men and body image is complicated. For example, males are less likely than women to report body dissatisfaction and binge eating. Body dissatisfaction and binge eating have been considered to be disorders associated more with women than with men (Grilo, Masheb, Brody, Burke-Martindale, & Rothschild, 2005; Sorbara & Geliebter, 2002; Striegel-Moore, Bedrosian, Wang, & Schwartz, 2012). Also, men have reported having no system of body checking (Reas et al., 2006; Striegel-Moore, 2009). Additionally, African-American men typically do not spend much time obsessing over their body images, which could be a cultural issue (Regan & Cachlin, 2006).

### **Implications for Social Change**

The information generated from this study may have an impact on social change. Understanding eating behaviors may help individuals increase their knowledge about eating patterns about genetic and ethnic factors (Racine et al., 2011; Thompson-Brenner et al., 2013). As people increase their knowledge base, they can better understand their eating behaviors and promote greater awareness for those struggling with BE behaviors.



This added knowledge about eating patterns can help decrease eating disorders, reduce the need for medical intervention, which saves on costs, reduces absences in the workplace, and increases productivity (Thompson-Brenner et al., 2013).

Another potential implication of social change is increased school and work attendance, as well as increased productivity when individuals improve eating patterns and develop healthier eating habits (Streigel-Moore, 2007). In decreasing problematic eating habits, people can learn prevention strategies and educate themselves about the early detection of binge eating episodes. To help individuals learn proper eating strategies, educational and intervention programs started through schools or community outreach efforts can be beneficial. By supplying families with information about good nutrition, programs may help parents learn what constitutes healthy eating habits. The goal would be to introduce healthy eating behaviors and reduce emotional eating patterns that can lead to depressive symptoms and maladaptive eating habits (Mason & Lewis, 2014).

Ongoing conversations with pediatricians or family doctors are areas where education and intervention programs discussed could help prevent an ED from developing. Another area of social change is educating men to promote positive body images and decrease their body dissatisfaction by diminishing BE episodes. Individuals most at risk for binge eating and associated eating disorders would be people experiencing depressive symptoms, unhealthy eating styles, and obesity (Mason & Lewis, 2014). having proper nutrition supplied when children are not in school. Preventing BE from developing can be accomplished through sporting programs where

coaches have the ability to discuss esteem issues as well as eating and exercise programs with the athletes. Not all boys and men participate in sporting programs. Other opportunities, besides only games, need to be incorporated into programs that help address issues of eating patterns, self-esteem, and exercising patterns. Opportunities involving boys and men who participate in dance such as ballet, jazz, and modeling have been known to suffer from eating disorders. Discussion about eating habits, proper exercising, and self-esteem can be added to these venues to help individuals improving eating patterns and prevent the development of an ED. Health classes can also be an opportunity to help address issues of healthy eating, exercising, and self-esteem. In closing, the results of this research can be used to help educate men about the impact of BE and how a better understanding can lead to improving body image and improved eating patterns as these patterns relate to different ethnicities, particularly African-Americans and Caucasian-Americans.

### **Limitations of this Study**

This study had several limitations. The first limitation noted was the time constraint for the data was limited to a 3-month collection timeframe. The questionnaires were self-reported, and I assumed the participants answered the questions honestly. The Consent Form stated the limitation of the study in that the participants would be asked to respond to demographic questions, and fill out the EAT-26, IPC, and BSQ. The limits of the demographic questionnaire were the participant's height, weight, age, ethnicity, the level of education completed, and income range. There were only two ethnicities used for this study that is another limitation, and only men participated in this study.

Another limitation is that this study focused only on African-American and Caucasian-American men. Previous research conducted on various cultures showed the impact of these cultures on eating behaviors that may lead to eating disorders. Cultural and historical factors help shape an individual's relationship to food (Markey, 2010; Pike & Borovoy, 2004). An understanding of culture is an important aspect of studying various ethnicities and eating behaviors. Factors associated with cultural differences should be taken into account when considering the eating habits of African-Americans (Jones, 2003).

Another limitation of this research was the questionnaires used. The EAT-26 asked questions to determine the consumption patterns, the IPC asked questions to determine the locus of control either internal or external, and the Body Satisfaction Questionnaire asked questions to determine the level of body dissatisfaction of the participants. In the EAT-26 there were issues such as: "I mainly avoid foods with a high carbohydrate content," "Other people think I am too thin," and "I take longer than others to eat my meals" (Garner et al., 1982). These questions help determine if the individual may have an eating disorder such as anorexia and not necessarily binge eating episodes. Other issues would resolve bulimia nervosa such as, "I vomit after I have eaten," and "I have the impulse to vomit after I eat," (Garner et al., 1982). There are a few questions that could help determine the BE episode behavior of the patient such as, "I have gone on eating binges where I feel that I may not be able to stop," (Garner et al., 1982). The IPC offered statements that help determine if the participant has internal, external, or chance beliefs about themselves. Statements such as, "Whether or not I get to be a leader

depends mostly on my ability," and "When I make plans, I am almost sure to make them work out," (Levenson, 1981) help to identify participants with an internal LOC. "My life is chiefly controlled by powerful others," and "Getting what I want requires pleasing those people above me," (Levenson, 1981) help identify individuals with an external, or powerful others LOC. Lastly, statements such as, "To a great extent my life is controlled by accidental happenings," and "When I get what I want, it's usually because I am lucky," (Levenson, 1981) would give credence to the fact that participants using these statements depend on chance happenings. The limitation would be if the member does not answer in an accurate manner; therefore, contributing to false information. The BSQ uses statements to identify individuals that have issues with the shape of their body. Some of the statements used in the BSQ are, "Has feeling bored made you brood about your shape?", "Have you avoided running because your flesh might wobble?", "Has being naked, such as when taking a bath, made you feel fat," and "Have you felt excessively large or round?" (Cooper et al., 1987). Again, the statements would lend credence to the study's outcome if the participants answered in a truthful manner.

I did not include treatment planning or diagnosis in this research which is another limitation of this study. The participants were self-identified as either African-American or Caucasian-American. The lack of a diverse sample was another limitation; however, the purpose of this research was to compare the two ethnicities. Further research would be needed to be able to relate the findings beyond the two ethnicities chosen for this study.

### **Recommendations for Further Research**

Most research on eating patterns has focused on women; therefore, there is a need to expand research to the male population about eating patterns (Gentile et al., 2007; Grilo and Masheb, 2004; Job et al., 2010; Linde et al., 2004). This research could be expanded to include men of ethnicities other than Caucasian and African-American ethnicities (Hilbert & Tuscan-Caffier, 2007; Wing et al., 2009; Zeeck et al., 2011; Thompson-Brenner et al., 2013).

More research could be conducted on various ethnic groups, to ascertain how the cultural processes influence eating disorders. Altabe (1998) conducted a study that purported the importance of doing research on different ethnic groups. Her study used both quantitative and qualitative assessments to determine the impact of body image among various ethnicities. The Altabe research is an older study and could be expanded using additional ethnicities. The Altabe study (1998) highlighted the importance of studying multiple ethnic groups using various measures. Also, included in new research could be the impact eating patterns have on the individuals, about the length of time in the new culture before maladaptive eating patterns begin (Henrickson, Crowther, & Harrington (2010).

Future studies could also address the influence of culture, family, and how culture and family affect the etiology of eating disorders. A critical family environment, coercive family control, and a dominating discourse on weight in the household could have an adverse impact on the emergence of an eating disorder (Haworth-Hoepfner, 2000). This study could be expanded using multiple ethnicities and a qualitative approach with open-

ended questions. As previously stated, cultural differences should be taken into account when considering EDs in African-Americans. As additional research programs develop, consideration can provide additional training that would assist clinicians in developing an appropriate treatment for various cultural groups. In training individuals to help people with eating disorders, gender differences, the impact of body Mass Index, and age of onset should take into consideration (Mason & Lewis, 2014; Rich & Thomas, 2008).

Most studies focusing on eating patterns and binge eating have focused on women, and many of these studies could be replicated using a larger male population (Fitzgibbon et al., 2012; Reagan & Hersch, 2004; Streigel-Moore et al., 2012). Once communities develop intervention programs such as early intervention and education programs into the school system or community, there could be research to assess the effectiveness of these programs in increasing awareness and reducing BE episodes. Lastly, studies based on the results of this current study could be replicated using other ethnicities and a larger sample. A larger sample would increase the validity of the survey (Gravetter & Wallnau, 2007).

### **Conclusion**

This study was designed to explore and compare BE episodes, the locus of control, and body dissatisfaction between African-American and Caucasian-American men. Most of the research regarding eating behaviors and BE focused on women. More studies are needed to increase understanding of men's experiences with eating disorders (Gentile, Raghaven, Rahaf, & Gates, 2007; Grilo & Masheb, 2004; Oertig, Brandstatter, & Allemand, 2010; Linde et al., 2004; Reagan & Hersch, 2004). By exploring eating

behaviors and eating patterns of men of various ethnic backgrounds, the information gained can be used to increase the understanding of eating attitudes. As the understanding of eating habits and binge eating episodes increase, programs can be instituted to help diminish binge eating and other problematic eating patterns. This knowledge will contribute to improving the quality of life and productivity for when absences increase productivity decreases, which affects the quality of life as individuals are having to focus on health issues and diminished capacity resulting from an ED or poor eating habits.

The results of this research showed a significant relationship between internality and ethnicity and these results support a similar lead to an older study by Shorr and Young (1984). African-American men felt they had less power over their lives than Caucasian-American men. Ethnicity and body dissatisfaction was significant in that Caucasian-American men show greater body dissatisfaction than African-American men. Lastly, ethnicity and BE were not significant in that ethnicity did not have a role in BE episodes. This research also contributes to Walden University's mission of social change by providing information on BE and comparing African-American men to Caucasian-American men. Information gained from this research may help to improve eating patterns and help individuals to develop healthier eating behaviors. Increasing awareness of BE episodes may also contribute to decreasing eating disorders, workplace absences, and the need for medical intervention, which results from BE. As absences from work decrease, productivity may increase. Furthermore, increased knowledge and understanding may help to improve productivity and body image, as well as to help develop healthy eating patterns, potentially leading to full and rewarding lifestyles

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## Appendix A: Consent Form

### CONSENT FORM

You are invited to participate in a research study of men and their eating habits. The purpose of this research is to examine the eating behavior of men and compare two ethnicities: African-American men and Caucasian-American men. Please read this consent form carefully. If you have any questions or concerns before participating, contact Elizabeth Raky, a doctoral candidate at Walden University, who is conducting this research or [IRB@waldenu.edu](mailto:IRB@waldenu.edu).

If you give consent to participate in this study you will be asked to:

Complete a demographic questionnaire, the Eating Attitudes Test-26, Internal, Powerful Others, and Chance Questionnaire that helps determine if an individual's behavior is motivated by an internal or external locus of control, and the Body Shape Questionnaire on the SurveyMonkey web site.

It is estimated the survey will take approximately 20 minutes. The completion of the questionnaires will represent your consent to participate. If you choose not to participate please exit the web site.

Your participation in this study is voluntary. No one at Walden University will treat you differently if you decide not to participate in this study. If you decide to participate in this study you can change your mind, at any time, during the study. If you feel stressed during the study, you can stop at any time. You may skip any questions you feel comfortable answering. No compensation will be provided for participation in this study.

There are no personal benefits for participating in this study. However, there are potential benefits to society. This study can provide valuable information about how binge eating affects men. Emotional discomfort during this study is unlikely, although, some participants may experience emotional discomfort, such as stress or anxiety, during questioning. Should you experience any discomfort, you are not obligated to complete this study or answer any questions that cause discomfort. If you experience emotional discomfort, stress, or anxiety during this study, please call the International Mental Health Referral Service hotline at 1-800-843-7274 or the National Eating Referral and Information Center at 1-858-481-1515. You may also contact the university Research participant Advocate at 1-612-312-1210 or email address [IRB@waldenu.edu](mailto:IRB@waldenu.edu).

Any responses to these questionnaires will be anonymous. You will not be identified by name but you will be assigned a participant number. The researcher will not use your information for any purpose outside of this research study. In reporting the findings of

this study, the researcher will not provide anything that could identify you as a participant in this study.

You may ask questions at any point during this study. If you have any questions or concerns, please contact the researcher, Elizabeth Raky, at 1-401-295-7960 or by email at [elizabeth.raky@waldenu.edu](mailto:elizabeth.raky@waldenu.edu). The participant should keep/print a copy of this consent form.

I have read the above information and believe I understand the study well enough to make a decision about my involvement. By clicking on the option "Proceed to study" I am agreeing to the terms as described above.

## Appendix B: Demographic Questionnaire

**DEMOGRAPHIC QUESTIONNAIRE**

**Please respond to each item below.**

1. Please enter your height in feet and inches.  
Feet \_\_\_\_\_ inches \_\_\_\_\_
2. Please list your weight in lbs. \_\_\_\_\_
3. What is your age? \_\_\_\_\_
4. What is your ethnicity?  
\_\_\_\_\_ Caucasian-American  
\_\_\_\_\_ African-American
5. What is the highest level of education you completed?  
\_\_\_\_\_ Grade completed  
\_\_\_\_\_ High school diploma or equivalency  
\_\_\_\_\_ Technical or trade school  
\_\_\_\_\_ Associate's degree  
\_\_\_\_\_ Bachelor's degree  
\_\_\_\_\_ Master's degree  
\_\_\_\_\_ Doctoral degree
6. How many years of education did you complete? \_\_\_\_\_
7. What was your taxable income in 2013?  
\_\_\_\_\_ 0-\$10,000  
\_\_\_\_\_ \ \$10,001-\$20,000  
\_\_\_\_\_ \$20,001-\$35,000  
\_\_\_\_\_ \$35,001-\$50,000  
\_\_\_\_\_ \$50,001-\$75,000  
\_\_\_\_\_ \$75,002-\$100,000

\_\_\_\_\_ \$100,001-\$125,000

\_\_\_\_\_ \$125,001-\$150,000

\_\_\_\_\_ \$150,001-+

8. Have you ever been diagnosed with an eating disorder by a medical or mental health professional?

\_\_\_\_\_ yes

\_\_\_\_\_ no

## Appendix C: Requesting Permission to Use the EAT-26

Feb. 25, 2013

Dr. David Garner,

My name is Elizabeth Raky and I am completing my second doctorate from Walden University.

My dissertation topic is on binge eating and I have chosen the population of African-American men and Caucasian-American men, to explore and compare.

I would like to ask permission to use your EAT-26 as one of the instruments in my research. Upon completion of this research project I'll be happy to send you the results of my research and also a bound copy of my dissertation for your library.

I would like to thank-you, in advance, for permission to use the EAT-26 in my research.

Sincerely,

Elizabeth Raky, Ph.D.  
Doctoral Candidate  
Walden University  
Clinical Psychology



## Appendix D: Letter Requesting Permission to Use the IPC

Elizabeth A. Raky, Ph.D.  
Lafayette Counseling, LLC  
457 Ten Rod Road  
N. Kingstown, RI 02852  
March 26, 2013

Dr. Levenson;

I enjoyed speaking with you this afternoon and am following up on our phone conversation.

As I stated, I am completing my second Ph.D. in clinical psychology. My first Ph.D. is in history specializing in Islamic Studies. My dissertation topic is on binge eating and the population sample I am using is men; comparing the Caucasian-American and African-American population. I am focusing on the Locus of Control that may influence behavior with binge eaters.

I would like to ask permission to use the Internal Powerful Others and Chance Questionnaire you have developed. I would also like to know where I can locate information on the reliability and validity factors of the assessment as I shall need to address the reliability and validity in my methodology section and, to a lesser degree, in the results section of my manuscript.

Upon completion of my research and the successful oral defense I will be happy to send you a bound copy of the manuscript which will have the results of my research project. You may respond to me through this email which is [elizabeth.raky@waldenu.edu](mailto:elizabeth.raky@waldenu.edu) or my personal email which is [rakydoctorx2@aol.com](mailto:rakydoctorx2@aol.com)

I look forward to your reply and thank you for your interest in my research.

Elizabeth A. Raky, Ph.D.  
Graduate Student  
Doctoral Candidate in Clinical Psychology  
Walden University

## Appendix E: Permission to Use the IPC

Permission to use the IPC.

Yes. You have my permission to use the IPC in your research. Check out my website. [WWW.hannalevenson.com](http://WWW.hannalevenson.com)

I look forward to seeing your results.

Hanna Levenson

Sent from my Verizon Wireless Phone

----- Reply message -----

From: "Elizabeth Raky" <[elizabeth.raky@waldenu.edu](mailto:elizabeth.raky@waldenu.edu)>

To: <[hannalevenson@aol.com](mailto:hannalevenson@aol.com)>

Subject: permission to use the IPC for research

Date: Tue, Mar 26, 2013 4:27 pm

## Appendix F: Internality, Powerful Others, and Chance Scales

**Internality, Powerful Others, and Chance Scales**

Citation:

Levenson, H. (1981). Differentiating among internality, powerful others, and chance. In H. M. Lefcourt (Ed.), *Research with the locus of control construct* (Vol. 1, pp. 15-63). New York: Academic Press. Used with permission.

	<i>Strongly Disagree -3</i>	<i>Disagree -2</i>	<i>Slightly Disagree -1</i>	<i>Slightly Agree +1</i>	<i>Agree +2</i>	<i>Strongly Agree +3</i>
1. Whether or not I get to be a leader depends mostly on my						
2. To a great extent my life is controlled by accidental						
3. I feel like what happens in my life is mostly determined by						
4. Whether or not I get into a car accident depends mostly on how good a driver I am.						
5. When I make plans, I am almost certain to make them						
6. Often there is no chance of protecting my personal interests from bad luck happenings.						
7. When I get what I want, it's usually because I'm lucky.						
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of						
9. How many friends I have depends on how nice a person I						
10. I have often found that what is going to happen will happen.						
11. My life is chiefly controlled by powerful						
12. Whether or not I get into a car accident is mostly a						

13. People like myself have very little chance of protecting our personal interests when they conflict with those of strong						
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of						

	<i>Strongly Disagree</i> -3	<i>Disagree</i> -2	<i>Slightly Disagree</i> -1	<i>Slightly Agree</i> +1	<i>Agree</i> +2	<i>Strongly Agree</i> +3
15. Getting what I want requires pleasing those people above me.						
16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right						
17. If important people were to decide they didn't like me, I probably wouldn't make many						
18. I can pretty much determine what will happen in my life.						
19. I am usually able to protect my personal interests.						
20. Whether or not I get into a car accident depends mostly on the other driver.						
21. When I get what I want, it's usually because I worked hard for						
22. In order to have my plans work, I make sure that they fit in with the desires of people who have power						
23. My life is determined by my own actions.						
24. It's chiefly a matter of fate whether or not I have a few friends						

Internality Subscale: Items 1, 4, 5, 9, 18, 19, 21, 23

Powerful Others Subscale: Items 3, 8, 11, 13, 15, 17, 20, 22

Chance Subscale: Items 2, 6, 7, 10, 12, 14, 16, 24

Directions for scoring: Add up the eight responses for each scale. Add a constant of 24 to each scale (to eliminate negative sums). Each respondent receives three scores (from 0-48) indicating his/her relative standing on each of the three dimensions.

## Appendix G: Permission to Use the EAT-26

Dear Dr. Raky,

Thank you for your permission request to reproduce and use the EAT-26. The EAT-26 is protected under copyright; however, all fees and royalties have been waived because it has been our wish for others to have free access to the test.

Please consider this e-mail as granting you permission to reproduce the test for the purpose suggested in your request as long as the EAT-26 is cited properly. The correct citation is: "The EAT-26 has been reproduced with permission. Garner et al. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. *Psychological Medicine*, 12, 871-878."

You can download a copy of the scoring instructions and the test on the homepage of the EAT-26 website. If you use the written version of the test, it is recommended that you provide respondents with the link to the EAT-26 website ([www.eat-26.com](http://www.eat-26.com)) so that they can learn more about the test.

Again, thank you for requesting permission to reproduce and use the EAT-26. If you intend on publishing your work, please send me your results so that they can be included in a research database being developed on the EAT-26 website ([www.eat-26.com](http://www.eat-26.com)).

Best wishes,

David M. Garner, Ph.D.  
Administrative Director  
River Centre Clinic  
5465 Main Street  
Sylvania, OH 43560  
[dm.garner@gmail.com](mailto:dm.garner@gmail.com)

## Appendix H: EAT-26

EATING ATTITUDES TEST (EAT-26)©						
Please fill out the below form as accurately, honestly, and completely as possible. There are no right or wrong answers. All of your responses are confidential.						
<b>Part A: Complete the following questions:</b>						
1) Birth Date	Month:	Day:	Year:	2) Gender:	Male	Female
3) Height	FT.:	IN.:	h			
4) Current Weight (lbs.):	5) Highest Weight (excluding pregnancy):					
6) Lowest Adult Weight:	7) Ideal Weight:					
<b>Part B: Check a response for each of the following statements:</b>				Always	Usually	Often
				Some times	Rarely	Never
1. Am terrified about being overweight.						
2. Avoid eating when I am hungry.						
3. Find myself preoccupied with food.						
4. Have gone on eating binges where I feel that I may not be able to stop.						
5. Cut my food into small pieces.						
6. Aware of the calorie content of foods that I eat.						
7. Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)						
8. Feel that others would prefer if I ate more.						
9. Vomit after I have eaten.						
10. Feel extremely guilty after eating.						
11. Am preoccupied with a desire to be thinner.						
12. Think about burning up calories when I exercise.						
13. Other people think that I am too thin.						
14. Am preoccupied with the thought of having fat on my body.						
15. Take longer than others to eat my meals.						
16. Avoid foods with sugar in them.						
17. Eat diet foods.						
18. Feel that food controls my life.						
19. Display self-control around food.						
20. Feel that others pressure me to eat.						
21. Give too much time and thought to food.						
22. Feel uncomfortable after eating sweets.						
23. Engage in dieting behavior.						
24. Like my stomach to be empty.						
25. Have the impulse to vomit after meals.						
26. Enjoy trying new rich foods.						
<b>Part C: Behavioral Questions:</b>				Never	Once a month or less	2-3 times a month
<b>In the past 6 months have you:</b>				Once a week	2-6 times a week	Once a day or more
A	Gone on eating binges where you feel that you may not be able to stop? *					
B	Ever made yourself sick (vomited) to control your weight or shape?					
C	Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape?					
D	Exercised more than 60 minutes a day to lose or to control your weight?					
E	Lost 20 pounds or more in the past 6 months			Yes	No	
* Defined as eating much more than most people would under the same circumstances and feeling that eating is out of control						
Copyright: EAT-26: (Garner et al. 1982, <i>Psychological Medicine</i> , 12, 871-878); adapted by D. Garner with permission.						

## Appendix I: Permission to Use the BSQ

Dear Elizabeth Raky

I am very happy for you to use the BSQ. I published two papers a long time ago which contain the information you need. Try and find them on line. If you have difficulty, I can probably help, but I am away from my office until the end of October.

Best of luck with your work.

Peter Cooper

## Appendix J: Requesting Permission to Use the Body Shape Questionnaire

Dear Professor Cooper,

Professor Fairburn asked his research co-ordinator, Marianne O'Conner to send me your email address so I can contact you directly.

My name is Elizabeth Raky and I am completing my second Ph.D. I am a doctoral candidate at Walden University working on my dissertation. The topic of my dissertation is binge eating and I plan to compare Caucasian-American men and African-American men. I would like to ask for permission to use your Body Shape Questionnaire in my research. Should permission be granted, I would appreciate being sent information on the BSQ, validity and reliability, and constructs, or directed to where I can get this information. Also, after my oral defense I will provide you with the results of my research and also be willing to send you a bound copy of the entire dissertation for your library.

Thank you, in advance, for granting permission to use this valuable Instrument.

Best Regards,

Elizabeth Raky, Ph.D.  
Doctoral Candidate  
School of Psychology  
Walden University



### Appendix K: The Body Shape Questionnaire

Please do not answer questions 9, 12, and 25 as these questions are not applicable to this research or the population being studied. Thank you

#### BSQ-34

We should like to know how you have been feeling about your appearance over the **PAST FOUR WEEKS**. Please read each question and circle the appropriate number to the right. Please answer all the questions.

#### OVER THE PAST FOUR WEEKS:

	Never					
		Rarely			Sometimes	
				Often		
					Very often	
						Always
1. Has feeling bored made you brood about your shape?.....	1	2	3	4	5	6
2. Have you been so worried about your shape that you have been feeling you ought to diet?.....	1	2	3	4	5	6
3. Have you thought that your thighs, hips or bottom are too large for the rest of you?.....	1	2	3	4	5	6
4. Have you been afraid that you might become fat (or fatter)?.....	1	2	3	4	5	6
5. Have you worried about your flesh being not firm enough?.....	1	2	3	4	5	6
6. Has feeling full (e.g. after eating a large meal) made you feel fat?.....	1	2	3	4	5	6
7. Have you felt so bad about your shape that you have cried?.....	1	2	3	4	5	6
8. Have you avoided running because your flesh might wobble?.....	1	2	3	4	5	6
9. Has being with thin women made you feel self-conscious about your shape?.....	1	2	3	4	5	6
10. Have you worried about your thighs spreading out when sitting down?	1	2	3	4	5	6
11. Has eating even a small amount of food made you feel fat?.....	1	2	3	4	5	6
12. Have you noticed the shape of other women and felt that your own shape compared unfavourably?.....	1	2	3	4	5	6
13. Has thinking about your shape interfered with your ability to concentrate (e.g. while watching television, reading, listening to conversations)?.....	1	2	3	4	5	6
14. Has being naked, such as when taking a bath, made you feel fat?.....	1	2	3	4	5	6
15. Have you avoided wearing clothes which make you particularly aware of the shape of your body?.....	1	2	3	4	5	6
16. Have you imagined cutting off fleshy areas of your body?.....	1	2	3	4	5	6

  

	Never		
		Rarely	
			Sometimes

					Often	
					Very often	
					Always	
17.	Has eating sweets, cakes, or <u>other</u> high calorie food made you feel fat?	1	2	3	4	5 6
18.	Have you not gone out to social occasions (e.g. parties) because you have felt bad about your shape?.....	1	2	3	4	5 6
19.	Have you felt excessively large and rounded?.....	1	2	3	4	5 6
20.	Have you felt ashamed of your body?.....	1	2	3	4	5 6
21.	Has worry about your shape made you diet?.....	1	2	3	4	5 6
22.	Have you felt happiest about your shape when your stomach has been empty (e.g. in the morning)?.....	1	2	3	4	5 6
23.	Have you thought that you are in the shape you are because you lack self-control?.....	1	2	3	4	5 6
24.	Have you worried about other people seeing rolls of fat around your waist or stomach?.....	1	2	3	4	5 6
25.	Have you felt that it is not fair that other women are thinner than <u>you</u> ?.....	1	2	3	4	5 6
26.	Have you vomited <u>in order to</u> feel thinner?.....	1	2	3	4	5 6
27.	When in company have you worried about taking up too much room (e.g. sitting on a sofa, or a bus seat)?.....	1	2	3	4	5 6
28.	Have you worried about your flesh being dimply?.....	1	2	3	4	5 6
29.	Has seeing your reflection (e.g. in a mirror or shop window) made you feel bad about your shape?.....	1	2	3	4	5 6
30.	Have you pinched areas of your body to see how much fat there <u>is</u> ?.....	1	2	3	4	5 6
31.	Have you avoided situations where people could see your body (e.g. communal changing rooms or swimming baths)?.....	1	2	3	4	5 6
32.	Have you taken laxatives <u>in order to</u> feel thinner?.....	1	2	3	4	5 6
33.	Have you been particularly self-conscious about your shape when in the company of other people?.....	1	2	3	4	5 6
34.	Has worry about your shape made you feel you ought to exercise?.....	1	2	3	4	5 6

## Curriculum Vitae

### **Academic Experience:**

7/07-2017 doctoral candidate in clinical psychology---Walden University, Minneapolis, Minnesota, 4.0 GPA

5/86-5/92 Certificate of Advanced Graduate Studies (CAGS), Counselor Education specializing in mental health---Rhode Island College, Providence, Rhode Island

5/84-7/86 Doctor of Philosophy (Pd.D.) in history specializing in Islamic Studies---Walden University---Minneapolis, Minnesota

8/81-5/84 Masters of Arts in history---Providence College, Providence, Rhode Island

9/75-6/79---30 graduate credits in music from the University of Rhode Island, Kingston, Rhode Island

6/72-5/75 Bachelor of Science in music education---Rhode Island College, Providence, Rhode Island

9/68-5/72---Bachelor of Arts in history, minor in education and psychology---Mount Saint Joseph College, Wakefield, Rhode Island

7/67 studied at the University of Strasbourg in Strasbourg, France as part of the American Institute for Foreign Studies (AIFS)

9/64-6/68 North Kingstown High School Diploma---North Kingstown, Rhode Island

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### **Professional Experience:**

9/14-5/15---Supervised a Masters level intern from Walden University, Minneapolis, Minnesota. The supervisory role included giving feedback on her assessments capability, therapeutic roles, charting and over all managing time and developing skills as a therapist.

12/13-present---Clinical Assessment and Consultation Services---2496 Main Road, Tiverton, Rhode Island---conduct neuropsychological assessments for adults and children and therapy for adults and teens.

12/13-present---EG Psychological Associates---27 Division Street, East Greenwich, Rhode Island---conducted neuropsychological assessments for adults and children.

Lafayette Counseling, LLC---founder and owner, 457 Ten Rod Road, North Kingstown, Rhode Island---conduct therapy for adults and children.

9/05-7/09 adjunct professor of the Community College of Rhode Island, Warwick, Rhode Island---taught in the Social Science Department.

9/75-6/05 taught in the Warwick Public Schools---Warwick, Rhode Island---taught social studies which included African-American culture, U. S. History, Asian Studies, Western civilization, sub-Sahara Africa, and general music.

5/92-12/95 psychology associate---Testing Psychological Potentials, Inc., Dr. Robert Wuraftic owner and president---performed psychological assessments and therapy for adults.

9/79-9/80 religious education coordinator---Meshanticut Park Community Baptist Church, Oaklawn Avenue, Cranston, Rhode Island, attended monthly educational meetings with church leaders, coordinated the Sunday school and youth programs.

9/75-6/76 religious education coordinator---Asbury United Methodist Church, Fair Street, Warwick, Rhode Island. I coordinated education for the church which included leading the youth programs and Christmas pageants.

9/80-6/81 Minister of Music, Meshanticut Community Baptist Church, Oaklawn Avenue, Cranston, Rhode Island. I lead the youth choirs which include the bell choir.

5/68-5/74 minister of music---Davisville Naval Base, Quonset Point Naval Base, North Kingstown, Rhode Island. I was organist and choir director for the Davisville Naval Base and substituted as organist for the Quonset Naval Base Chapel.

5/72-6/75 substitute teacher for the West Warwick and North Kingstown public schools.

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**Training:**

12/13-11/14 Robert DuWors---Licensed Psychologist and neuropsychologist---Internship. I did psychotherapy, assessments for DCYF (DAS), and neuropsychological assessments, diagnoses, and treatment planning. Also, I conducted psychotherapy utilizing CBT, DBT, MI, and EMDR (where appropriate).

STAR<sup>tm</sup> Certification Program---advances in cancer rehabilitation and survivorship care. I work with a multidisciplinary team assisting cancer patients and their families through the various stages and treatments of cancer and surviving cancer. Training occurred in Boston, Massachusetts at Massachusetts General Hospital in conjunction with Harvard Medical School.

4/13-4/14 EMDR Training in Warwick, Rhode Island. I utilize EMDR with my therapy patients where appropriate.

9/12-5/13 The Providence Center---Practicum substance abuse and dual diagnoses. Cathy A'dvant-Fowler, LMHC---supervisor. Conducted Tox screenings, case management, and conducted group and individual therapy in the use of CBT, DBT, and MI. I also conducted Art Therapy group weekly and group in the Intensive Outpatient Program (IOP).

9/12-2/13 Practicum, Louis Turchetta, Ed.D.---Licensed Psychologist was my supervisor. I conducted psychological assessments, diagnoses, and wrote the reports for disability, Post Road, Warwick, Rhode Island.

9/06-9-08 Northern Rhode Island Community Services (NRI Internship---mental health-- I did therapy with groups and individual therapy for adults.

6/91-5/92 Internship Testing Psychological Potentials, Inc.---Robert Wuraftic, Ph.D.--- Supervisor---therapy and diagnostic testing for adults with disabilities.

3/75-5/75 Coventry School Department---student teaching---secondary music---Coventry High School, Coventry, Rhode Island. I conducted the women's chorus, mixed chorus, orchestra, marching band, and stage band.

1/75-3/75 Warwick School Department---student teaching---elementary music. I taught general music to elementary students, grades 1-6.

1/72-5/72 North Kingstown School Department---Davisville Junior High School (now Davisville Middle School)---student teaching---history.

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**Grants Received:**

None

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**Community Service and Consulting Experience:**

9/10-present Jamestown Community Chorus (JCC) I sing with the JCC and we perform 2 concerts per year, Christmas and Spring concerts. It is a mixed chorus, SATB.

6/90-5/94 Rhode Island Rape Crisis Center I volunteered for crisis counseling.

9/78-5/79 Consultant---University of Michigan Eastern Studies Department---I consulted with a Pilot Program---Eastern Studies at the Junior High Level. I ran the program with my classes and wrote a report for the Eastern Studies Department as to what changes may be useful for the program to become part of the Junior High curriculum.

9/69-5/73 Rhode Island Civic Chorale and Orchestra. I sang alto in the Rhode Island Civic Chorale and Orchestra performing several concerts throughout the year which included the annual Bach Festival held at Pembroke College, now part of Brown University, in Providence, Rhode Island.

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**Licenses and Certifications:**

1994---certified as a Biblical Counselor---Bob Jones University, Greenville, South Carolina.

Licensed Mental Health Counselor---#MHC00492, in the state of Rhode Island

STAR<sup>™</sup> Certification Program---advances in cancer rehabilitation and survivorship care. I work with a multidisciplinary team assisting cancer patients and families through the various stages and treatments of having and surviving cancer.

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**Honors and Awards:**

Awarded the Grand Cross of Color from the International Order of Rainbow for girls

2013---The Golden Key International Honor Society

7/25/09 inducted into PSI CHI---National Honor Society for psychology

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**Publications:**

Anthology of American Poetry

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**Professional Presentations and Papers:**

None

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**Organizations:**

American Psychological Association (APA)---graduate affiliate

American Counseling Association (ACA)

The Golden Key International Honor Society

PSI CHI National Honor Society for Psychology

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**Areas of Expertise:**

Medical crisis counseling

Eating disorders

Major Depressive Disorder (MDD)

Generalized Anxiety Disorder (GAD)

Post-Traumatic Stress Disorder (PTSD)

Cancer rehabilitation and survivorship care---the STAR<sup>™</sup> program

Grief and loss therapy

Psychological assessments---disability

## Neuropsychological testing

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### **Modalities used:**

CBT

DBT

MI

EMDR—where appropriate

Individual, couples, groups, families

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### **Research Interests:**

Eating disorders

Bulimia---CAGS Research Project---comparing hopelessness and depression in  
Women 18-24 and 25-44

Binge eating ---topic for dissertation---population---comparing Caucasian-  
American and African-American males.

Neuropsychology

Traumatic Brain Injury (TBI)

Rasmusen's Encephalitis

impact of neuron functioning on binge eating

correlation between binge eating and obsessive compulsive disorder

Environmental issues

Multicultural issues

Gender issues

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### **References**

Dr. Robert DuWors---clinical psychologist/neuropsychologist, Clinical Consultation and  
Assessment, 27 Division Street, East Greenwich, RI 02818.

Dr. Louis Turchetta, Psychological Assessments, Post Road, Warwick, RI 02888